SHARP

SHARP ELECTRONIC CASH REGISTER

MODEL **ER-2905**
ER-2908

INSTRUCTION MANUAL

ARCHIV

The above photo shows model ER-2908.
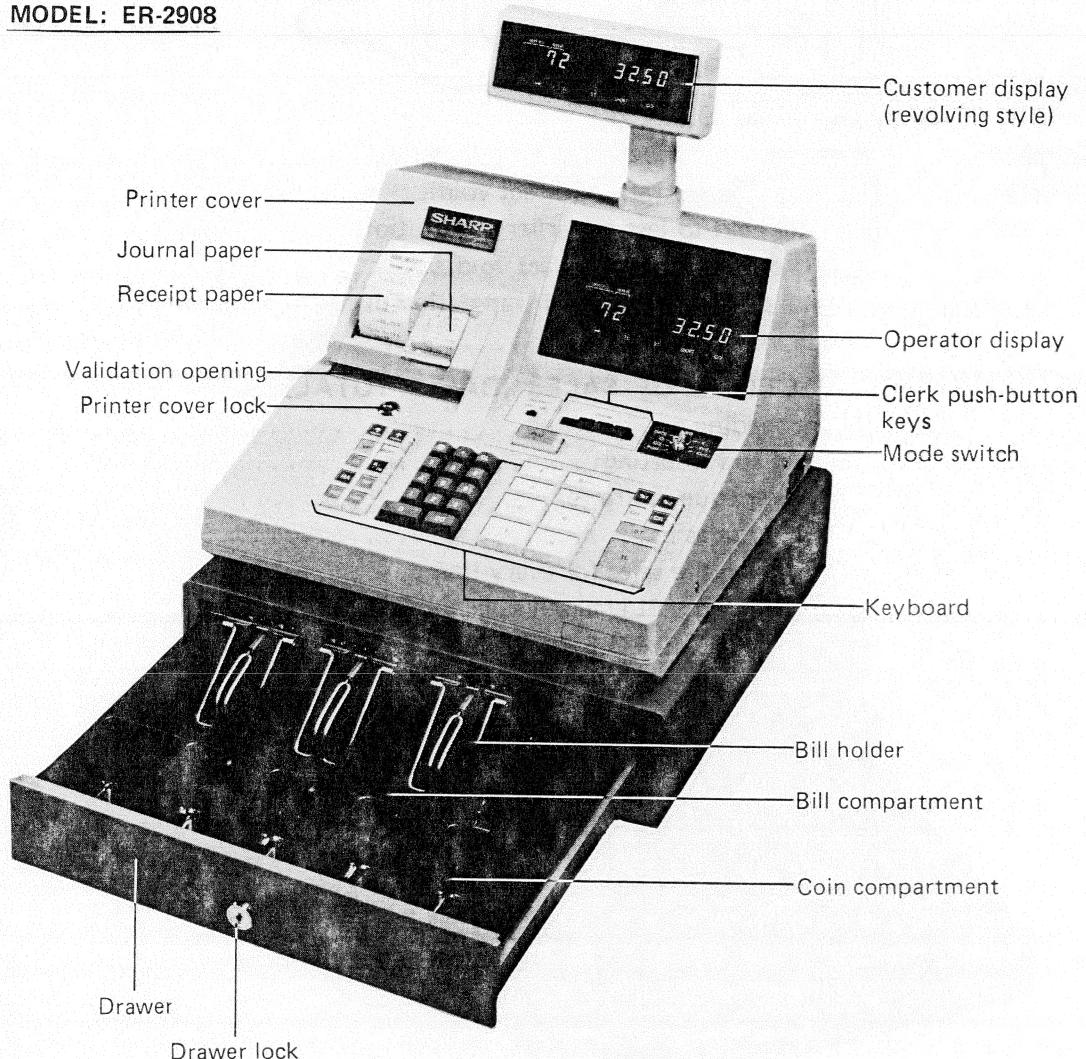
CONTENTS

PHYSICAL CHARACTERISTICS OF THE ER-2905/2908 REGISTERS

MODEL: ER-2908

Customer display (revolving style)

Printer cover

Journal paper

Receipt paper

Operator display

Validation opening

Printer cover lock

Clerk push-button keys

Mode switch

Keyboard

Bill holder

Bill compartment

Coin compartment

Drawer

Drawer lock

Note: The drawer for the U.K. or Australia model is different from the one for the West Germany model.

Drawer for the U.K. model: 4 slots for bills and 8 for coins; the drawer lock is on the right side of the drawer.

Drawer for the Australia model: 6 slots for bill and 5 for coins; the drawer lock is on the right side of the drawer.

■ Drawer lock
  Lock: Turn 180 degrees
           counterclockwise.
  Unlock: Turn 180 degrees
           clockwise.

■ Printer cover lock
  Lock: Turn 90 degrees
           clockwise.
  Unlock: Turn 90 degrees
           counterclockwise.

■ Drawer lock key for
  the West Germany
  model
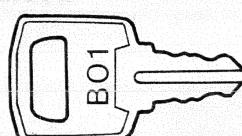
■ Drawer lock key for
  the U.K. or Australia
  model
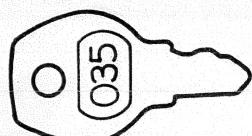
■ Printer cover lock key
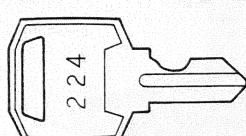
MODEL: ER-2905
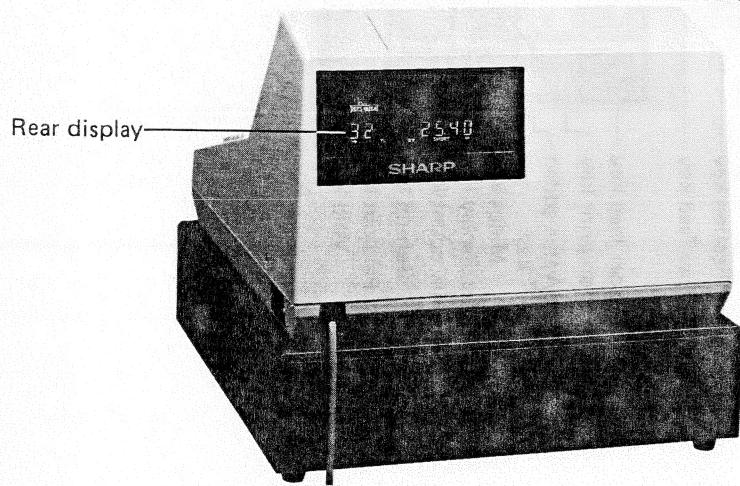
Rear display

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* Note: If your register is equipped with the optional VAT(Value Added Tax) function, cut off the key label VAT printed on the last page of this Manual by means of scissors or the like and replace the key label RCPT with it.

Clerk push-button key

Mode switch/power switch

Receipt ON-OFF switch

RECEIPT
OFF ON

CLERK
A B D E

REG
DATE
X
X1/Z1
X2/Z2
PGM

Clear key

Decimal point key

Multiplication key

Journal paper feed key

PLU

Price lookup key (option)

Percent 1 key

Receipt paper feed key

Validation print key

Receipt issue/value added tax (option) * key

Minus key

Non-add/time display key

Received-on-account key

Refund key

Paid-out key

Void key

VP RCPT

⊖ #/TM

RA RF

PO ∞

⊗ • CL

7 8 9

4 5 6

1 2 3

0 00

4 8(−)

3 7

2 6

1 5

%1 %2

CH CR

ST

TL

Percent 2 key

Credit key

Sub-total key

Total/amount tendered/no-sale key

Cheque key

Department keys

Numeric keys

0 ½ —1/2 penny key
(U.K. type)

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MODEL: ER-2905

RECEIPT OFF ON

CLERK A B D E

REG
DATE X
X₁/Z₁
X₂/Z₂
PGM

PLU

RECEIPT JOURNAL
VP RCPT
⊖ #/TM
RA RF
PO ∞

⊗ · CL
7 8 9
4 5 6
1 2 3
0 00

5 (−)
2 4
1 3

%1 %2
CH CR
ST
TL

Department keys

0 ½ — 1/2 penny key
(U.K. type)

1. Mode switch/power switch

Change the switch over by inserting the supplied mode key — operator (OP), submaster (SM), or master (MA) key. All these keys can be inserted into or drawn out of the switch only at the " ⏻/OFF" or "REG" position.
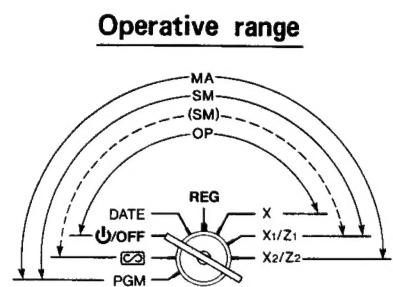
Operative range

The broken line indicates the operative range of the submaster key for the U.K. model.

⏻/OFF	:	Interrupts power supply.
DATE	:	Permits date or time setting.
REG	:	Permits various registrations.
X	:	Permits reading of sales total by clerk.
X_1/Z_1	:	Allows reading and resetting of daily sales total.
X_2/Z_2	:	Allows reading and resetting of weekly or monthly sales total.
PGM	:	Allows programming essential to registrations.
㋛	:	Allows cancellation after the finish of a transaction.

Mode switch keys

Master key (MA)
— numbered 6B5
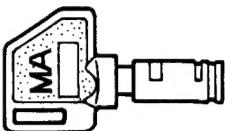
Submaster key (SM)
— numbered 3B2 for the U.K. model or 6B2 for the West Germany or Australia model
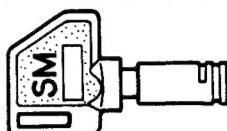
Operator key (OP)
— numbered 0B9
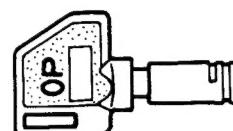
2. Receipt ON-OFF switch

RECEIPT

OFF   ON
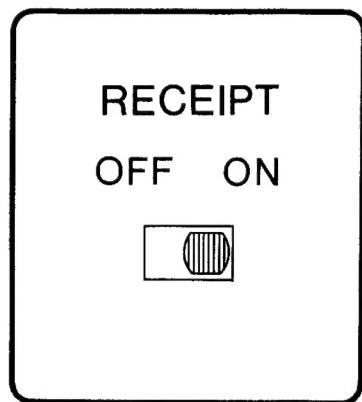
This switch permits and prohibits the receipting. To permit printing on the journal alone without the need to print a receipt, push the switch towards the OFF position.

DESCRIPTION OF THE DISPLAY

● ER-2908 Operator/Revolving Display

Amount
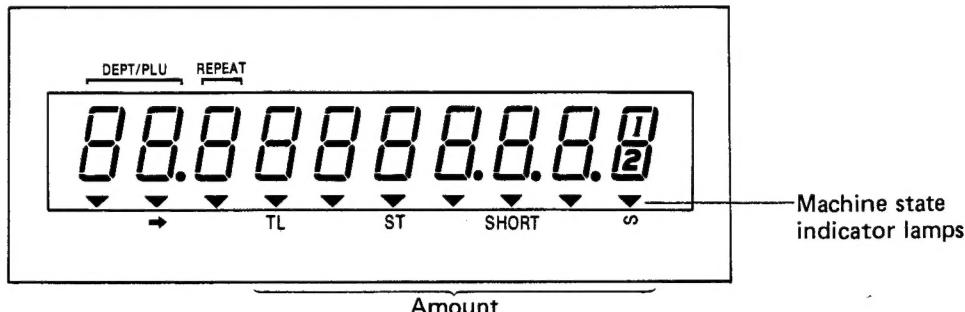
● ER-2905 Operator/Rear Display
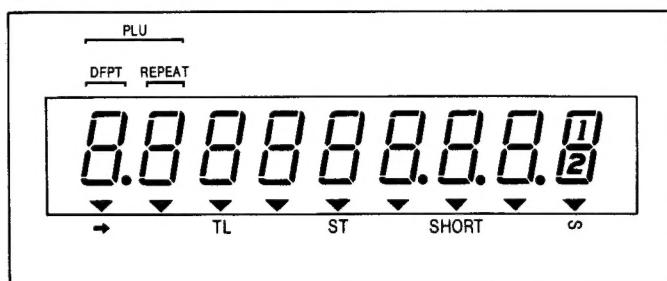
* The number of repeats is displayed from "2" and counted up with each repeat. When you've registered ten times, the display shows "0".

  Example: (2 → 3 → 4 ······· 9 → 0 → 1 → 2 ·······)

* The ER-2905 does not display the numer of repeats for PLU registrations.

* If cash in drawer exceeds a programmed limit, a decimal point appears in the 9th column of the operator display to alert the operator. (See page 18.)

● **Machine state indicator lamps**

→ :   This lamp lights up accompanying a display of change or when the sales is negative.

TL :   This lamp lights up when you terminate a transaction by pressing the [TL] , [CH] or [CR] key.

ST :   This lamp lights up when a sub-total is calculated.

SHORT :   This lamp lights up when the amount tendered is less than the sales.

∽ :   This lamp lights up during direct or indirect void.

P :   This lamp lights up during programming.

E :   This lamp lights up when an error is detected.

These lamps light up in the 9th place — the place where the number of repeated registrations shows up.

— :   This lamp lights up when a minus departmental, discount, deduction or
(Floating) refund registration is carried out or when a correction is made.

OVERFLOW ERROR ALARM

The purpose of the overflow error alarm is to alert the operator that the digit capacity of the register has been exceeded. The audible alarm sounds (beep) is accompanied by the " E " symbol in the register display. All transaction registration is dis-allowed until the error is cleared. To clear the error press the [CL] key.

Error condition	Action
(1) Number entry greater than 8 digits.	● Clear the entry and enter a valid number.
(2) Registration is made over the preset limit to the number of digits or to the amount entry.	● Clear the registration and make the registration within the existing limit.
(3) Sub-total of one transaction exceeds 7 digits.	● Clear the entry and press the [TL] , [CH] or [CR] key to finish the transaction. The machine prints the amount that had been calculated before the error occured.
(4) Q'ty x Unit price exceeds 7 digits.	● Clear the registration and re-enter properly.

● If a key is operated by mistake, the error alarm signal sounds briefly.
The machine will refuse any further key input at this time, so operate proper keys successively.

● **Drawer Alarm**

If the drawer remains opened over a programmed time span after a transaction is finalized, the register beeps continuously for warning. This warning can be cancelled by closing the drawer. (See page 23.)

TAB AND 1/2 KEY

This Instruction Manual refers to various registrations on the basis that TAB is set at "2".

Even in the case of using other register whose TAB is set at 0, 1, 3, or 3', we believe this Manual is helpful for you.

In TAB setting, any of 0, 1, 2, 2', 2", 3 and 3' can be selected. However, only when TAB-3', the "1/2" key is operative.

Example: TAB-set display and printing.

Key operation	TAB set	Display	Printing
1 2 3 4 [1]	0	1 1 2 3 4	1 ★ 1 2 3 4
	1	1 1 2 3.4	1 ★ 1 2 3.4
	2	1 1 2.3 4	1 ★ 1 2.3 4
	2'	1 1 2.3 5	1 ★ 1 2.3 5
	2"	1 1 2.3 4	1 ★ 1 2.3 4
	3	1 1.2 3 4	1 ★ 1.2 3 4
	3'	1 1 2.3 4	1 ★ 1 2.3 4

If TAB-2' is selected, depression of a department or PLU key displays and prints every preceding numeric entry with fractions not greater than 2 disregarded and those not lower than 8 raised to unit.

If TAB-2" is selected, every total amount is figured out with fractions not greater than 2 disregarded and those not lower than 8 raised to unit.

Example: Operation of [1/2] key

Key operation	TAB set	Display	Printing
1 2 3 4	3'	1 2 3 4	
[1/2]		1 2 3 4 ½	
[1]		1 1 2.3 4 ½	1 ★ 1 2.3 4 ½

Note: No entry of number can follow the operation of [1/2] key.

The list below shows the examples of the decimal fraction treatment and the following TAB-based fractional treatment.

TAB	Calculation result	Rounding	After TAB-based treatment	Raising	After TAB-based treatment	Disregarding	After TAB-based treatment
0	0.0	0		0		0	
	0.1 ~ 0.4	0		1		0	
	0.5 ~ 0.9	1		1		0	
3'	0.0000 ~ 0.0044	~ 0.004	0.00				
	0.0045 ~ 0.0054	0.005	0.001/2				
	0.0055 ~ 0.0099	0.006 ~	0.01				
2', 2"	0.000	0.00	0.00				
	0.001 ~ 0.024	~ 0.02	0.00				
	0.025 ~ 0.074	0.03 ~ 0.07	0.05				
	0.075 ~ 0.099	0.08 ~	0.10				
	0.001 ~ 0.020			~ 0.02	0.00		
	0.021 ~ 0.070			0.03 ~ 0.07	0.05		
	0.071 ~ 0.099			0.08 ~	0.10		
	0.001 ~ 0.029					~ 0.02	0.00
	0.030 ~ 0.079					0.03 ~ 0.07	0.05
	0.080 ~ 0.099					0.08 ~	0.10

PROGRAMMING
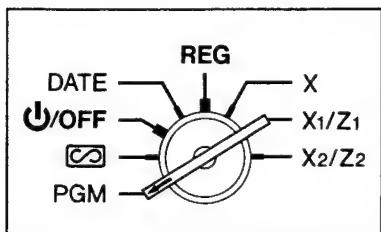
● Turn the mode switch to the PGM position.

1. Machine-number programming

Example: Setting the machine number at "123"

```
[1] [2] [3]  →  [#/TM]
```

Machine number: a maximum of 3 digits ——————

```
00-00-00


123№ 0001A
   11-08
```

2. Consecutive-number programming

Example: Starting from "1001"

```
[1] [0] [0] [0]  →  [ST]
```

Consecutive number: a maximum of 4 digits ——————

```
00-00-00


123№ 1000A
   11-08
```

Note: When you want to start from "1," press the [ST] key only.

3. Programming for departments

The following four items (1) through (4) can be programmed for individual departments.

(1)   Single-item cash sale function
This function allows each transaction to be finalized as a cash sale without depression of the [TL] key.

(2)   Limit to the number of entry digits
0 to 7 digits

(3)   Departmental status "Plus" or "Minus".

● "Plus":   Allows normal sales registrations.

● "Minus":   Allows the registration of payment to customers, for example bottle-return registration.

(4)   Unit price
A maximum of 6 digits ($ 0.01 to 9999.99)

< Procedure >

To repeat

To program a single-item cash sale function

Entry of the number "1" → Entry of the limit to the number of entry digits (1 to 7) → ⊗ → #/TM → Dept. key → (TL)

To select status "Minus"
To select status "Plus"

To program no single-item cash sale function
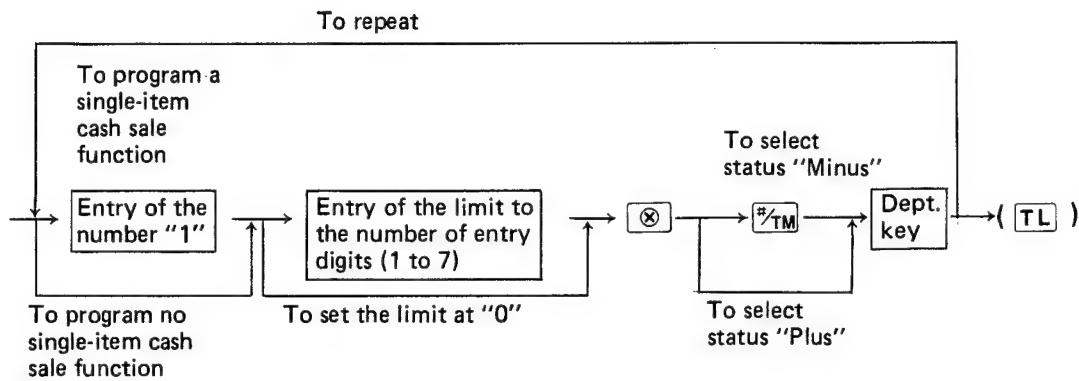
To set the limit at "0"

Note: To program single-item cash sale function and set the limit to the number of entry digits at "0", it is necessary to enter a "10".

Dept. ——

1	0.00	@
	5	
2	0.00	@
	6	

Limit to the number of entry digits

7	0.00	@
	14	
8	-0.00	@
	2	

Single-item cash sale dept.
Minus dept.

To repeat

Entry of a unit price → Dept. key → (TL)
Max. 6 digits
When price is 0

Unit price ——

1	1.50	@
	5	
2	3.50	@
	6	

7	12.50	@
	14	
8	-0.50	@
	2	

4. Programming for PLU (Price Look-up) — option

● Allot PLU numbers to individual items and program a unit price and department for each of these numbers.
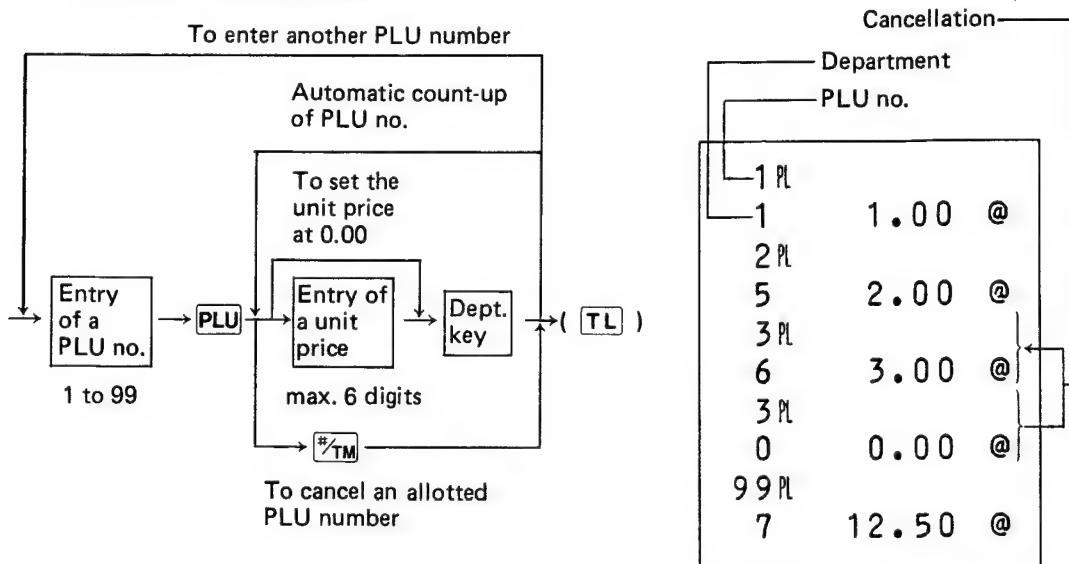
Note: The PLU number counter automatically goes upward.

5. Programming for the [%1] and [%2] keys

(1) Programming percentages (0.01 to 999.99%)
The machine allows the programming of percentages for departmental amounts, subtotals and both.

(2) Programming plus (premium) and minus (discount) signs.
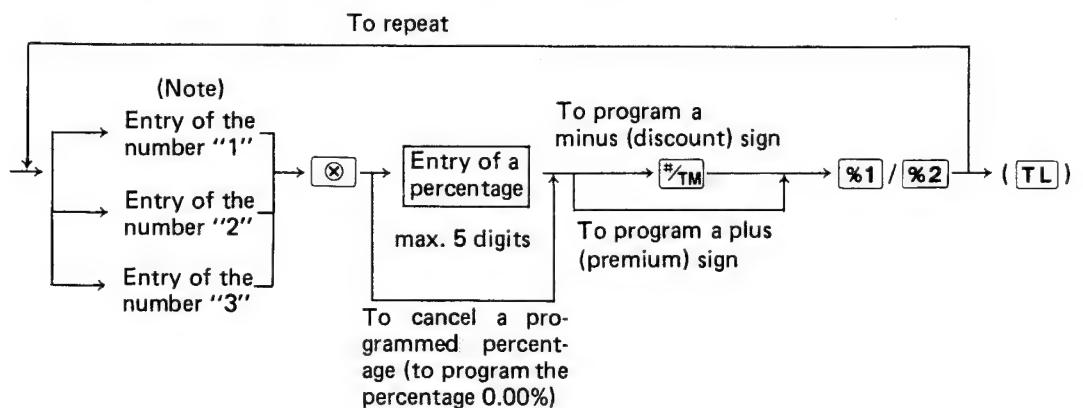
Note: Entry of the number "1" allows the programming of the percentage for a sub-total.

Entry of the number "2" allows the programming of the percentage for a departmental amount.

Entry of the number "3" allows the programming of the percentage for both of a departmental amount and sub-total.

```
2   -10.00%1
1   -20.00%2
```

6. Programming the limit to the number of entry digits for the RA , PO , ⊖ , CH , and CR keys.

To repeat

→ Entry of the limit to the number of entry digits (1 to 7) → ⊗ → RA / PO / ⊖ / CH / CR → (TL)

To program the machine for entry "No"
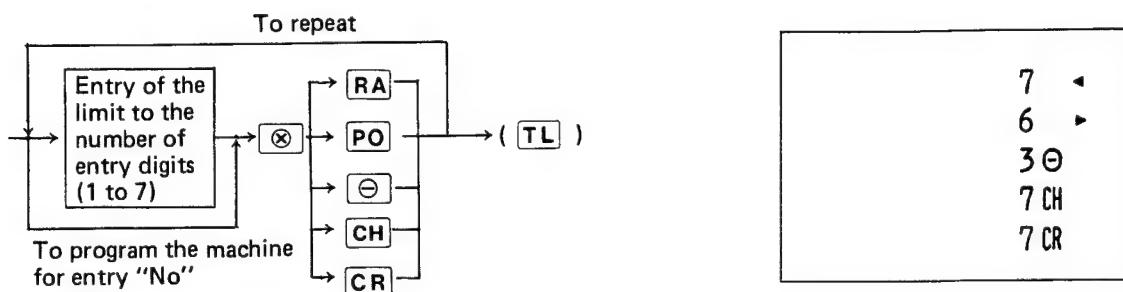
```
          7  ◄
          6  ►
          3 ⊖
          7 CH
          7 CR
```

7. Programming the amount for ⊖ key.

→ Entry of amount → ⊖ → (TL)

max. 6 digits

```
       2.00⊖@
```

8 . Programming journal print forms

This programming selects the following three types of journal print forms.

(1)   Print form that shows all registered information.
(2)   Print form that shows only sales total (including amount tendered and change).
(3)   Print form that does not show any information about the amounts registered into plus departments and PLUs.

To select (1)
To select (2)

→ Entry of the number "1" → ⊗ → Entry of the number "1" / Entry of the number "2" → TL → (TL)

To select (3)

(1)
```
          - JS
```

(2)
```
          ★ JS
```

(3)
```
            JS
```
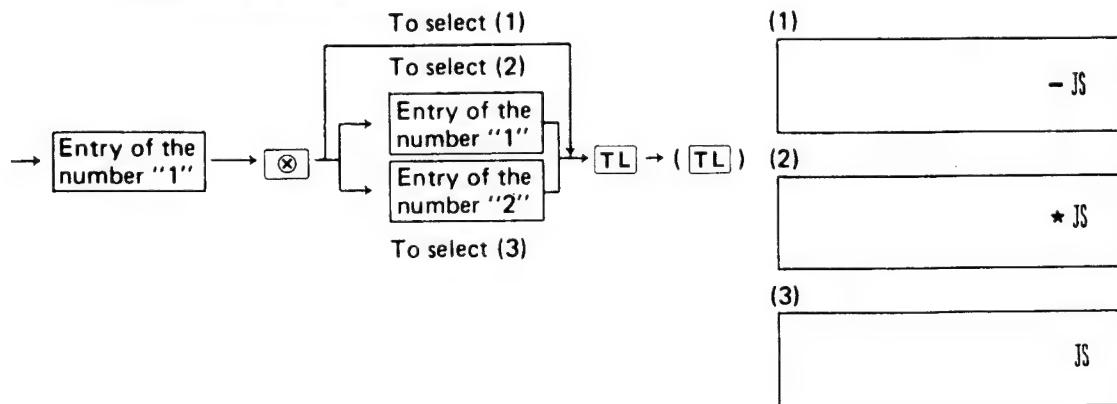
9 . Programming the number of times of validation printing

→ Entry of the number of times of validation printing (1 to 9) → VP → (TL)

To program the machine for validation printing "No"
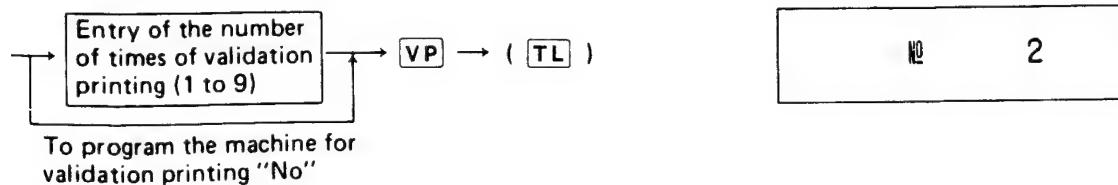
```
      NO      2
```

10. Programming for time printing "Yes"/"No"

This programming decides whether or not the machine should print a transaction time on the receipt and journal whenever a transaction is completed.

Time printing "Yes"
⟶ |Entry of the number "2"| → ⊗ → |Entry of the number "1"| → |TL| →(|TL|)
Time printing "No"

Time printing "Yes"
```
                    #
```

Time printing "No"
```
                  - #
```
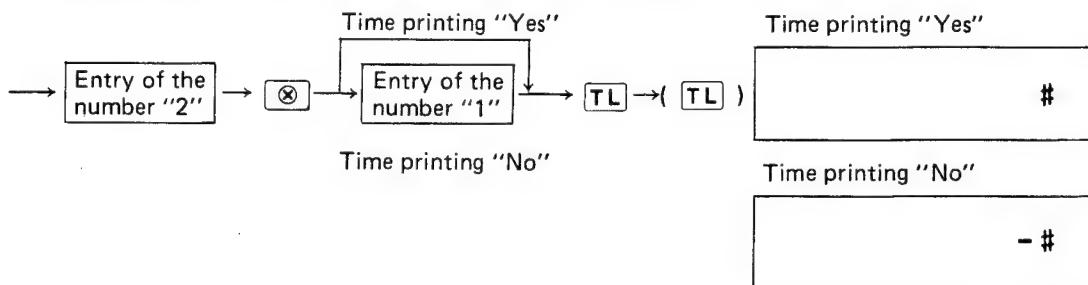
11. Programming an amount limit to cash in drawer.

⟶ |Entry of the number "3"| ⟶ ⊗ ⟶ |Entry of an amount limit| ⟶ |TL| ⟶(|TL|)

max. 8 digits

```
      100000.00  TL
```
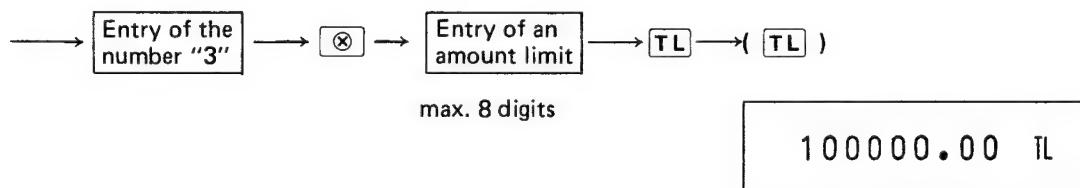
12. Programming VAT (Value Added Tax) rates (option)

⟶ |Entry of a VAT rate| →|VAT| ⟶(|TL|)

max. 5 digits

To cancel a programmed VAT rate (to program the VAT rate 0.00%)

```
        12.00%VT
```
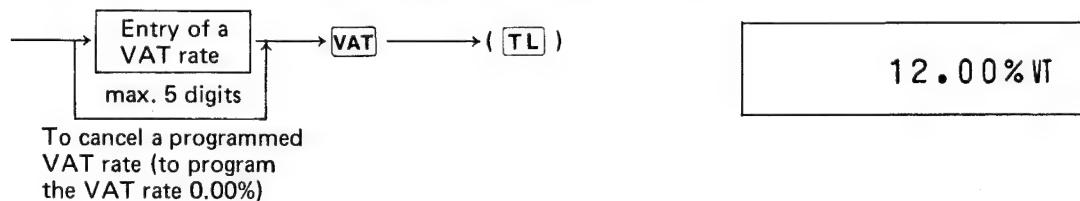
13. Programming for automatic VAT calculation "Yes"/"No" (option)

If the machine is programmed for automatic VAT calculation "Yes," it auto-matically calculates a VAT using a programmed VAT rate and then prints the cal-culation result on the completion of a transaction and/or during reading or resetting. For manual VAT calculations, program the machine for automatic VAT calculation "No."

To program for automatic VAT calculation "No"

Entry of the number "4" → ⊗ → (Note) Entry of the number "1," "2," or "3" → TL → (TL)

To program for automatic VAT calculation "Yes"

Automatic VAT calculation "No"

```
          0 A VT
```
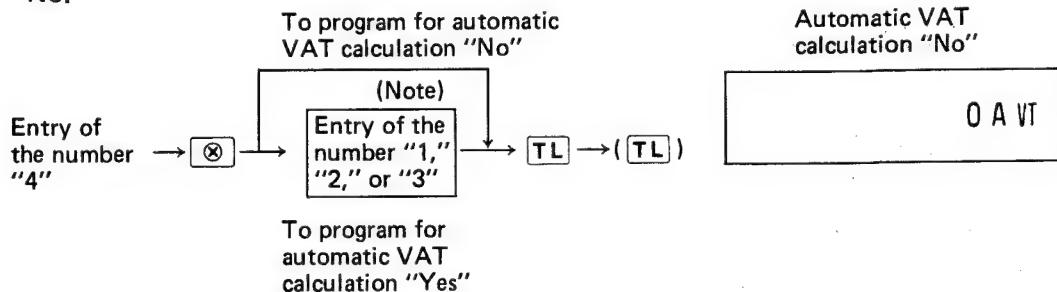
(Note)
- Entry of the number "1" causes the machine to perform an automatic VAT calculation on the completion of a trans-action.

```
          1 A VT
```

- Entry of the number "2" causes the machine to perform an automatic VAT calculation for net totals during reading or resetting.

```
          2 A VT
```

- Entry of the number "3" causes the machine to perform an automatic VAT calculation on the completion of a trans-action and during reading or resetting.

```
          3 A VT
```

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14. Reading the contents of programming

(1) Reading the contents of programming for departments and functions.

Press the TL key.

```
YOUR RECEIPT

THANK YOU


  00-00-00
                        ┌──────── Department
 1      1.50  @
        ___              ───────── Unit price
          5              ───────── Limit to the number of entry digits
 2      3.50  @
          6
 3      0.00  @
          7

 6      0.00  @
          7
 7     12.50  @          ───────── Single-item cash sale department
         14              ───────── Minus department
 8     ‾0.50  @
          2
 2    -20.00%1 ⎫         ───────── Discount or premium rate for departmental amount
 1    -10.00%2 ⎭                   and/or sub-total.
        2.00⊖@           ───────── Amount for ⊖ key
          7  ◄ ⎫
          6  ► ⎪
          3⊖   ⎬         ───────── Limit to the number of entry digits for received-on-
          7 CH ⎪                   account, paid-out, deduction, cheque and credit
          7 CR ⎭                   registrations.
100000.00  TL            ───────── Amount limit to cash in drawer.
        JS               ───────── Journal print form
    №   2                ───────── Number of times of validation printing
        #                ───────── Time printing "Yes"/"No"
   12.00% VT             ───────── VAT rate (option)
      3 A VT             ───────── Automatic VAT calculation "Yes"/"No" (option)

123№ 1018 A
  11-45
```

(2) Reading PLU programs

Press the PLU key.

```
        YOUR RECEIPT

        THANK YOU



      00-00-00                        ──── PLU number
   ┌─────────────────────────────────
   1 PL                               ──── Department
   1       1.00    @                  ──── Unit price
   2 PL
   5       2.00    @

   99 PL
    7      12.50   @

    123№  1019A
       11-45
```

21
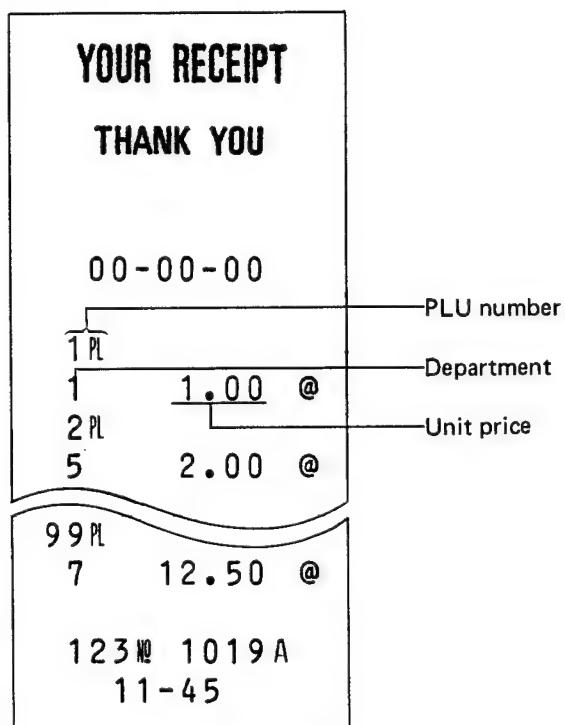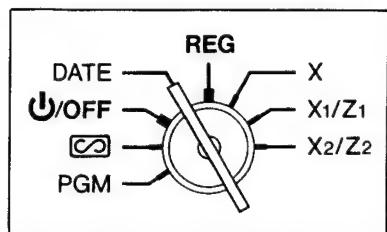
DATE MODE

- Turn the mode switch to the DATE position.
- Once the clock unit is started at the correct time, it continues to run as long as the battery is charged and updates the date properly.

- Both the receipt and journal papers will continue to show the previous date even when the date has been updated internally. It is therefore necessary to ring-up an empty receipt everyday before the start of the business (registrations) by turning the mode switch to the DATE position and pressing the [ST] key, updating the print of date. If this operation is not done, the first transaction of the day is printed with the previous date.

1. Date setting

Example: Setting at 9th August 1983

[ ] [9] [0] [8] [8] [3] → [ST]

    Day Month Year

Notes: 1. The leading "0" does not need to be entered.
2. On the completion of the date setting, press the [ST] key to print a receipt, then check the print.

2. Time setting (on the 24-hour cycle system)

Example: Setting at 14:30

[1] [4] [3] [0] → [#/TM]

  Hour Minute

YOUR RECEIPT

THANK YOU

00-00-00

09-08-83

123⑩ 1020A

YOUR RECEIPT

THANK YOU

09-08-83

14-30

123⑩ 1021A

Time — 14-30

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3. Time span setting for drawer alarm

- Time span setting can be made at increments of one second between 1 and 255 seconds.

- Setting

```
        ┌──────────────┐
───────▶│ Entry of a   │────────▶ ⊗
        │ time span    │
        └──────────────┘
        1—255 (seconds)
```

```
┌─────────────────────────┐
│      ★-0120-★           │
└─────────────────────────┘
```

Note: When the alarm function is not desired, enter "10000."

4. Printing of the Employee Arrival and Departure Times

(1) This printing can occur in validation.

(2) Key operation

① Arrival time (printed on the receipt)

Numeric key 1 ⟶ VP

② Departure time (printed on the journal)

Numeric key 2 ⟶ VP

(3) Sample printout

Arrival time   Departure time

```
    9-00    A              18-30    A

    Time   Clerk code      Time    Clerk code
    (on the receipt)       (on the journal)
```
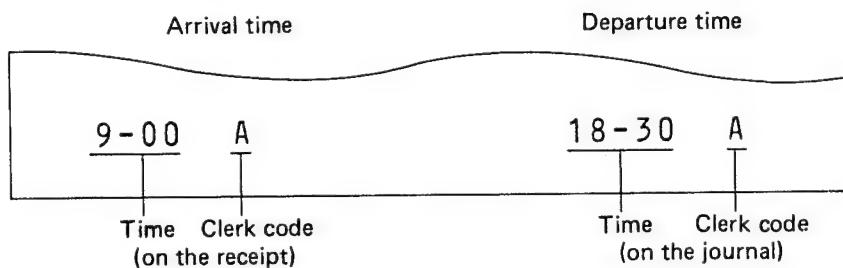
TIME DISPLAY

The time can be displayed by pressing the [#/TM] key in the REG, DATE or [co] mode with the previous registration or operation completed. The time display can be cleared by pressing the [CL] key or beginning the following registration.

Display of 10:25

```
|  |0 -25  |
```

This bar appears every second.
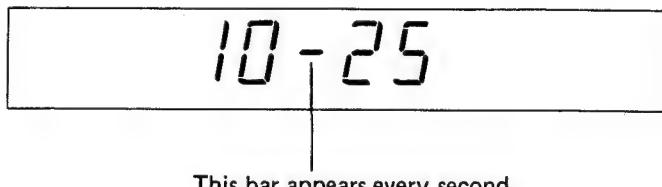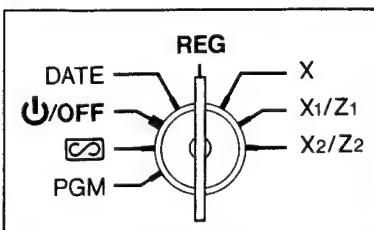
REGISTRATIONS

● Turn the mode switch to the REG position.

● The PLU is an optional function.

Basic registration operations

→ ⌐Amount¬ → [Dept. key] → [TL] , [CH] , or [CR]   (Registration using a
   ⌊(Unit price)⌋   manually entered unit price)

a maximum of 7 digits
(within the limit to the
number of entry digits or
to the amount entry)

→ [Dept. key] → [TL] , [CH] , or [CR]   (Registration using a preset unit price)

→ ⌐PLU no.¬ → [PLU] → [TL] , [CH] , or [CR]   (Registration using the PLU
                                                   function)

1. Repetitive registration

To use a programmed unit price

→ ⌐Amount¬ → [Dept. key] → [Dept. key] → [Dept. key] - - - →
   ⌊(Unit price)⌋

→ ⌐PLU no.¬ → [PLU] → [PLU] → [PLU] - - - - - - - - - - → [TL]

```
        09-08-83

1       *1.50
1       *1.50
1       *1.50
1 PL    *1.00
1 PL    *1.00
1 PL    *1.00

6       *7.50 CA

123№ 1028 A
    14-22
```

— Dept. number
— PLU number
— Sales q'ty (max. 2 digits)

Note: The repeat function can be used any number of times until the sub-total reaches $99999.99.

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2. Multiplication registration

$\longrightarrow$ [Q'ty] $\longrightarrow$ [⊗] $\longrightarrow$ [Amount (unit price)] $\longrightarrow$ [Dept. key] $\longrightarrow$

$\longrightarrow$ [Q'ty] $\longrightarrow$ [⊗] $\longrightarrow$ [PLU no.] $\longrightarrow$ [PLU] $\longrightarrow$ [TL]

```
              15 X ──────── Q'ty
            1.20   @ ────── Unit price
        6  *18.00 ───────── Result
               7 X
            6.00   @
       9PL *42.00

      22  *60.00 CA
```
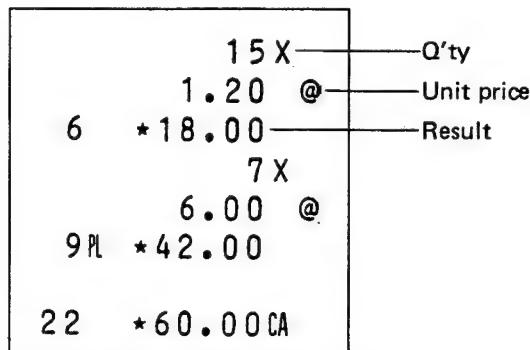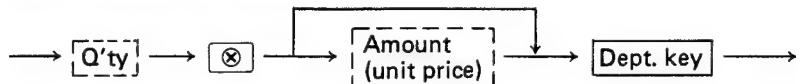
- Quantity: max. 6 digits (4-digit integer + 2-digit decimal)
- Unit price: within a programmed limit to the number of entry digits or to the amount entry (max. 7 digits)
- Quantity x Unit price: max. 7 digits

3. Registration of single-item cash sale

- This function is practical when you need to finalize in cash each time a single item is registered. It is operative only for the department to which it has been assigned.
- If this function is assigned to a PLU department, the corresponding PLU can be used for single-item cash sale.

$\longrightarrow$ [Amount (unit price)] $\longrightarrow$ [Dept. key] $\longrightarrow$

$\longrightarrow$ [Q'ty] $\longrightarrow$ [⊗] $\longrightarrow$ [Amount (unit price)] $\longrightarrow$ [Dept. key] $\longrightarrow$

$\longrightarrow$ [PLU no.] $\longrightarrow$ [PLU] $\longrightarrow$

$\longrightarrow$ [Q'ty] $\longrightarrow$ [⊗] $\longrightarrow$ [PLU no.] $\longrightarrow$ [PLU] $\longrightarrow$

$\longrightarrow$ Transaction finalizes automatically.
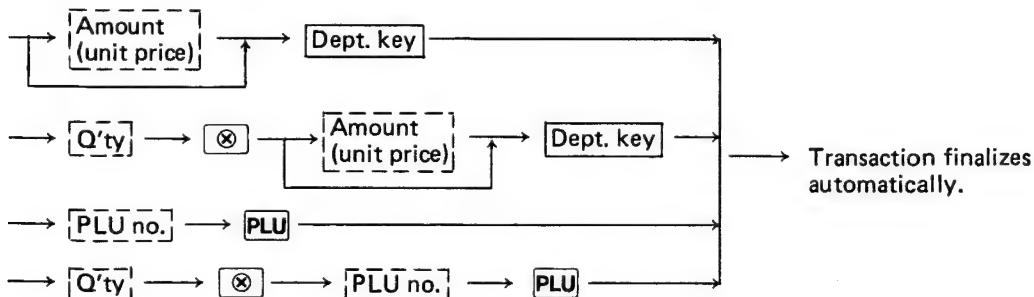
4. Display of sub-total

Press the [ST] key at any point during registrations. The machine will display the then sub-total.

5. Deduction registration

When using a
programmed amount

```
┌──────────────┐
│ Department or │
│ PLU registra- │ ──→ [ST] ──┬──→ [Deduction] ──┬──→ [⊖] ──→ [TL]
│ tion          │            │                  │
└──────────────┘            │                  │
                   within the limit
                   to the number
                   of entry digits
                   — max. 7
                   digits
```

```
 3      *2.48
 2 ℳ    *2.00
       -0.48⊖──────┐
                   │
 2     *4.00 CA
```
Deduction ────────────┘
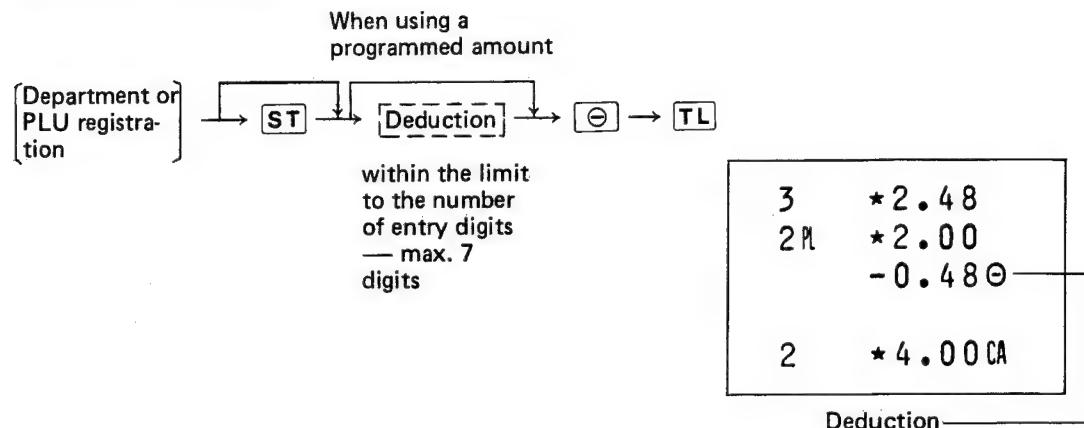
6. Percent calculation (premium or discount)

(1) Percent calculation for a departmental (PLU) amount

```
 ┌──→ [Amount] ──┬──→ [Dept. key]
 │               │                    When using a
 │               │                    programmed rate
─┤               ├──→ ┌─────────────┐
 │               │    │ Premium or  │ ──→ [%1] or [%2] ──→ [TL]
 └──→ [PLU no.] ──→ [PLU]│ discount rate│
                         └─────────────┘
                         max. 3-digit
                         integer + 2-digit
                         decimal
```

```
                    5    *45.00
Discount rate ──────────-10.00%
Discount ───────────────-4.50%1

                    1    *40.50 CA
```

```
                   7 ℳ   *5.00
Premium rate ───────────10.00%
Premium ────────────────*0.50%1

                    1    *5.50 CA
```

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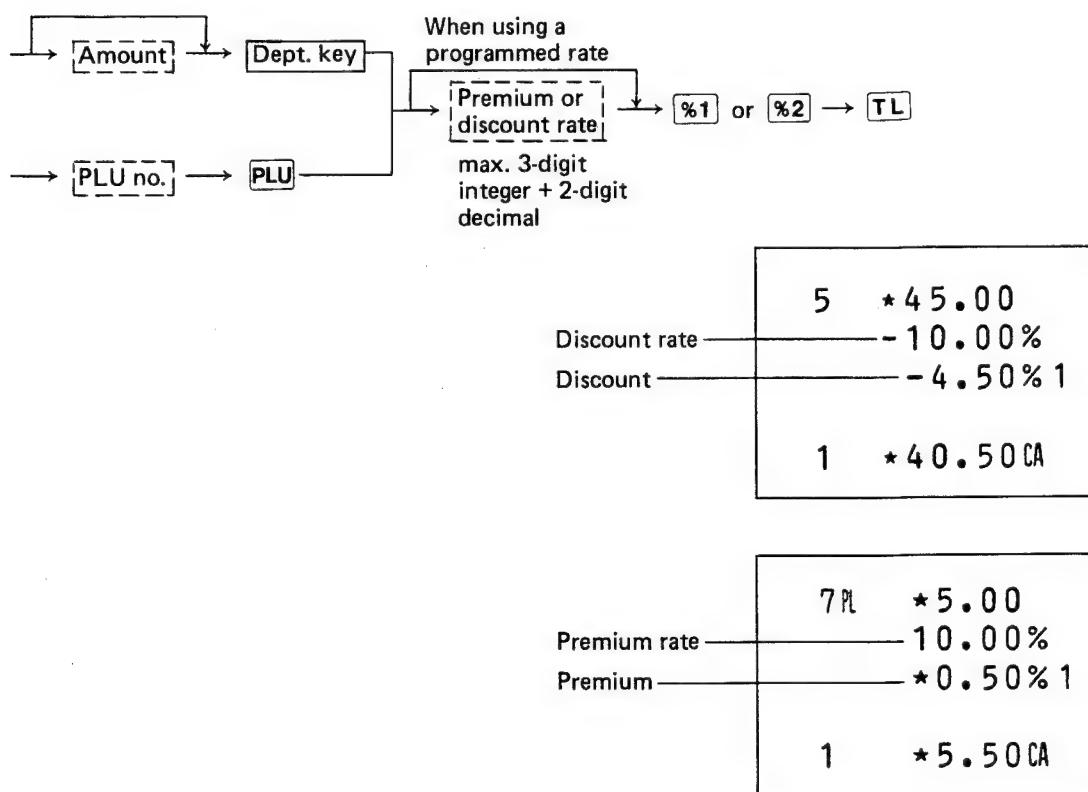
(2) Percent calculation for a sub-total

When using a programmed rate

$\longrightarrow$ [Department or PLU registration] $\longrightarrow$ ST $\longrightarrow$ [Premium or discount rate] $\longrightarrow$ %1 or %2 $\longrightarrow$ TL
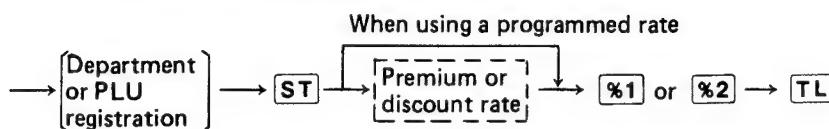
Note: This machine does not allow any calculation that would result in a negative subtotal. In other words, any discount rate of over 100% cannot be entered.

```
 6   *24.50
 8 PL  *5.50
      *30.00  ST
      -20.00%
       -6.00%2

 2   *24.00 CA
```

7. Computation of VAT (Value Added Tax) — option
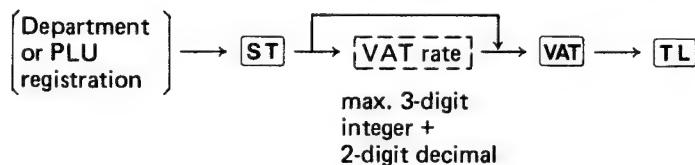
This function is applicable to sub-totals.

When using a programmed VAT rate

[Department or PLU registration] $\longrightarrow$ ST $\longrightarrow$ [VAT rate] $\longrightarrow$ VAT $\longrightarrow$ TL

max. 3-digit integer + 2-digit decimal

Note: If the machine has been programmed for automatic VAT calculation "Yes" in the PGM mode, it automatically computes and prints a VAT on the completion of each transaction and/or during reading or resetting.

```
 1 PL  *1.00
 1   *12.50
      *13.50  ST
      12.00%
       *1.45  VT
      *12.05 X ST

 2   *13.50 CA
```
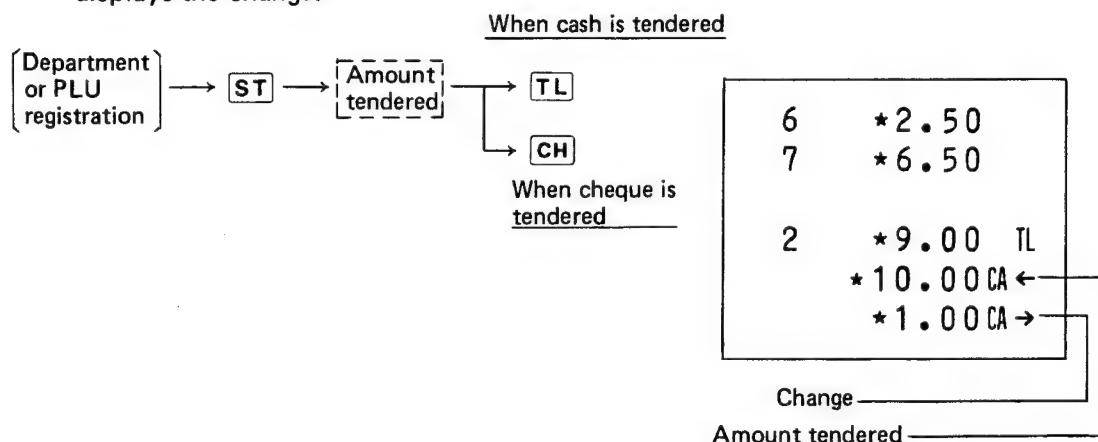
Value added tax

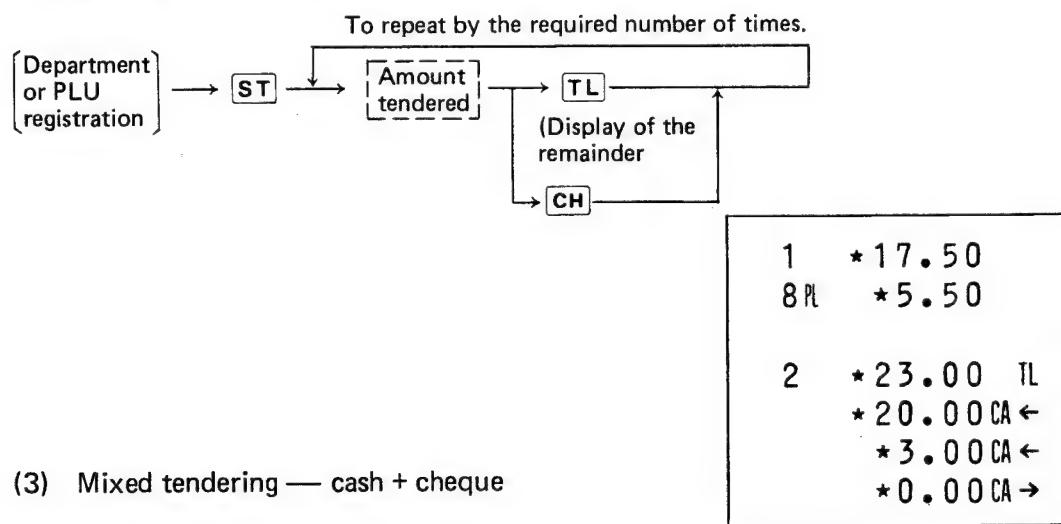VAT rate

8. Amount-tendered registration

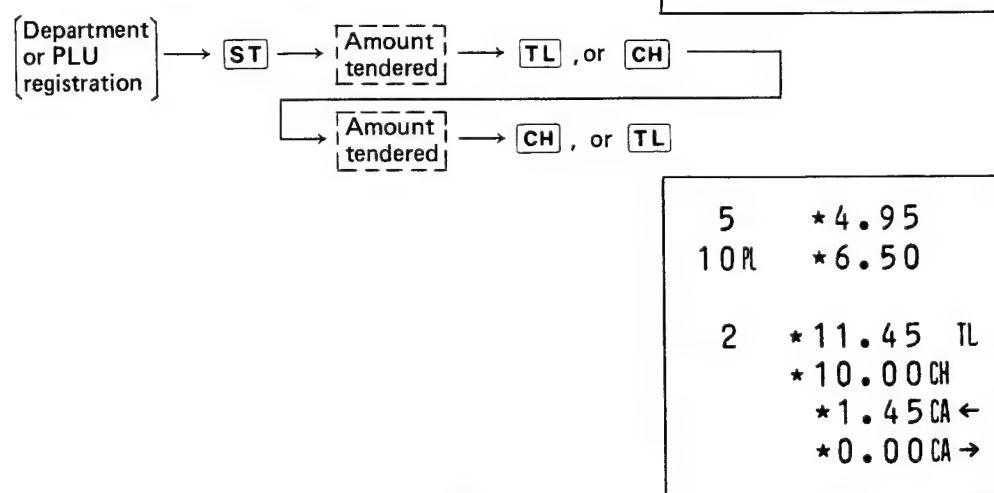The cash register allows cash- or cheque-tendered registrations.

(1) Change calculation

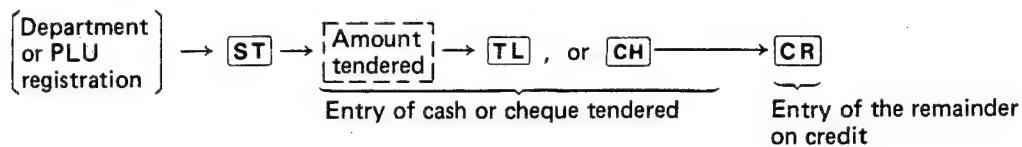If the amount tendered is greater than the sales amount, the cash register displays the change.

When cash is tendered

```
┌Department ┐        ┌─────────┐
│ or PLU    │ ──→ ST ──→ │ Amount  │ ──→  TL
│ registration ┘        │tendered │
└           ┘        └─────────┘  └──→  CH
```

When cheque is tendered

```
  6      *2.50
  7      *6.50

  2      *9.00   TL
       *10.00 CA ←
        *1.00 CA →
```

Change ─────────
Amount tendered ─────────

(2) Multiple cash or cheque tendering

To repeat by the required number of times.

```
┌Department ┐        ┌─────────┐
│ or PLU    │ ──→ ST ──→ │ Amount  │ ──→  TL
│ registration ┘        │tendered │
└           ┘        └─────────┘      (Display of the
                                       remainder
                             └──→  CH
```

```
  1     *17.50
  8 PL   *5.50

  2     *23.00   TL
       *20.00 CA ←
        *3.00 CA ←
        *0.00 CA →
```

(3) Mixed tendering — cash + cheque

```
┌Department ┐        ┌─────────┐
│ or PLU    │ ──→ ST ──→ │ Amount  │ ──→  TL , or  CH
│ registration ┘        │tendered │
└           ┘        └─────────┘
                     ┌─────────┐
                  └──→ │ Amount  │ ──→  CH , or  TL
                       │tendered │
                       └─────────┘
```

```
  5      *4.95
 10 PL   *6.50

  2     *11.45   TL
       *10.00 CH
        *1.45 CA ←
        *0.00 CA →
```

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(4) Mixed tendering — cash or cheque + credit

$$\begin{bmatrix} \text{Department} \\ \text{or PLU} \\ \text{registration} \end{bmatrix} \rightarrow \boxed{ST} \rightarrow \overbrace{\begin{bmatrix} \text{Amount} \\ \text{tendered} \end{bmatrix} \rightarrow \boxed{TL} \text{ , or } \boxed{CH}}^{} \longrightarrow \boxed{CR}$$

Entry of cash or cheque tendered   Entry of the remainder on credit

```
1    *10.50
5    *25.00

2    *35.50  TL
     *20.00 CA ←
     *15.50 CR
```

9. Refund registration

Press the RF key prior to a department or the PLU key.

```
┌→ [Amount] ─┐→ RF → [Dept. key] →

→ [Q'ty] → ⊗ ┌→ [Amount] ─┐→ RF → [Dept. key] →

→ [PLU no.] → RF → PLU →

→ [Q'ty] → ⊗ → [PLU no.] → RF → PLU → TL
```

```
1    -1.25   RF
        -5 X
       1.45   @
6    -7.25   RF
1 PL -1.00   RF
        -6 X
      2.00   @
2 PL -12.00  RF

0   *21.50 CA →
```

10. Printing non-add code numbers

$$\longrightarrow \begin{bmatrix} \text{Non-add} \\ \text{code} \\ \text{number} \end{bmatrix} \longrightarrow \boxed{\#} \longrightarrow \begin{bmatrix} \text{Amount} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{Dept.} \\ \text{key} \end{bmatrix} \longrightarrow \boxed{CR}$$
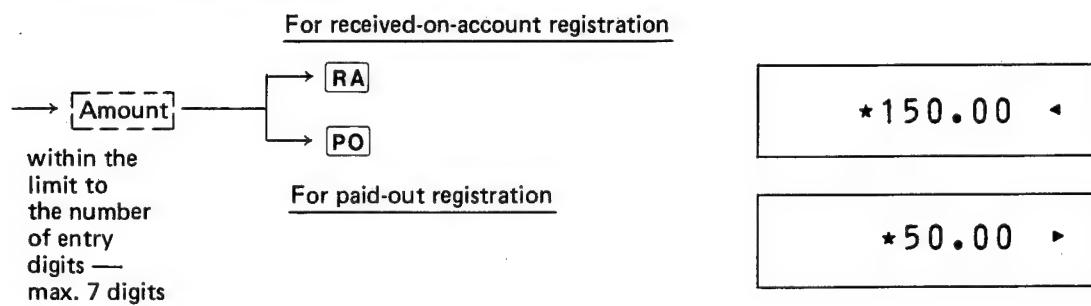
max. 8 digits

Non-add code number ——
```
00012345#
5    *18.50

1    *18.50 CR
```

* Both the ER-2905 and ER-2908 can print non-add code numbers any number of times at any point except during amount-tendered registrations.

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11. Received-on-account and paid-out registrations

For received-on-account registration

⟶ [Amount] ⟶ ┌⟶ [RA]
              └⟶ [PO]

within the
limit to
the number
of entry
digits —
max. 7 digits

For paid-out registration

```
┌─────────────────────────┐
│      *150.00  ◄         │
└─────────────────────────┘
```

```
┌─────────────────────────┐
│      *50.00   ►         │
└─────────────────────────┘
```

12. Exchange (no-sale)

⟶ [TL]

```
┌─────────────────────────┐
│   NS                     │
│                          │
└─────────────────────────┘
```

RECEIPTING FUNCTION (with the receipt ON-OFF switch at the OFF position)

When customers require to print receipts after the finish of transactions with the receipt ON-OFF switch at the OFF position (no receipting), press the RCPT key. This will make a receipt that shows a total print alone but not detailed print.

Example:

Key operation	Print (on the receipt)	Print (on the journal)
850 3		09-08-83
5 PLU		3 *8.50
TL		5PL *4.00
		2 *12.50CA
		123№ 1067A
		15-19
RCPT	**YOUR RECEIPT**	
	THANK YOU	
	09-08-83	
	2 *12.50CA ← A total alone is printed.	
	123№ 1067A	
	15-19 ── The consecutive number does not increase.	

Note: If your register is equipped with the VAT function, this function does not work.

VALIDATION PRINTING FUNCTION

The ER-2905/2908 provides validation printing for each item and that of the sales total.

1. Procedure for validation printing

After the completion of a department or PLU registration or the finalization of a registration through the TL , CH , CR , RA or PO key, insert a slip into the printer with its printing side downward, then press the VP key.

Slip ———

Slip guide ———
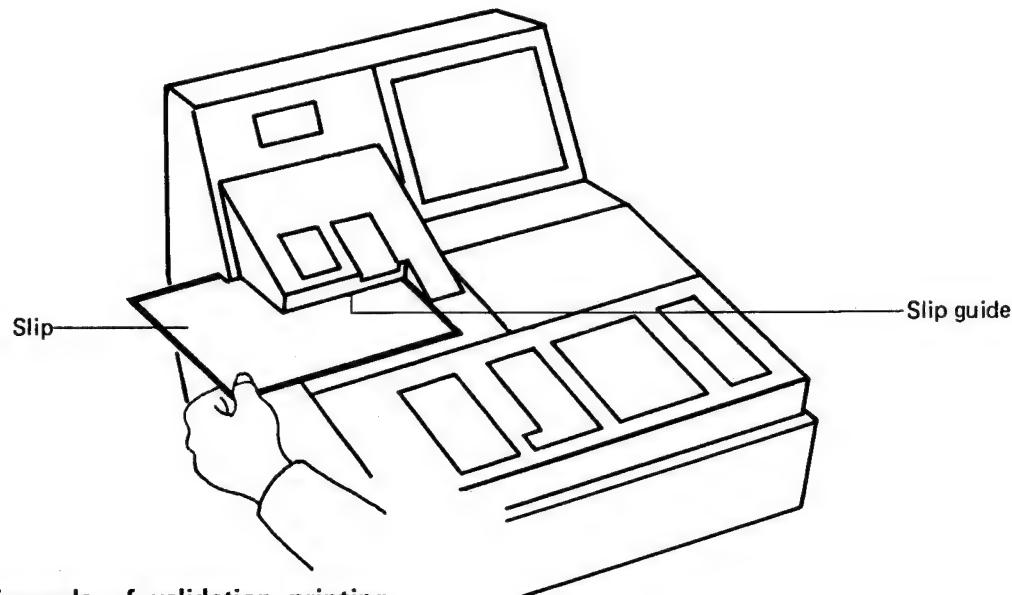
2. Example of validation printing

— Validation printing after a department (or PLU) registration —

```
123 № 1068 A       1    *25.00
```

Machine number

Clerk code

Amount

Consecutive no.

Dept. (A PLU no. is printed here in validation printing of a PLU registration.)

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— Validation printing after the finalization of a registration —

```
09-08-83 A        2   *45.00 CA
```

Date Clerk   Sales amount
      code   Sales q'ty   Transaction sign
                               ("TL" is printed here in an
   amount-tendered registration.)

3. Validation slip specification

Make validation slips according to the following specification. The use of any slips other than specified causes the printer to malfunction.

(1) Type of paper
     a) plain paper, b) pressure-sensitive paper, c) duplicating carbon paper

(2) Width: over 115 mm

(3) Copying ability and paper thickness
     ● Plain paper alone (when any copies are not needed.)
       Plain paper: 0.09 to 0.19 mm thick (82 to 157 g/m² in weight)
     ● Plain paper + duplicating paper
       Plain paper (thick): 0.09 to 0.19 mm thick (82 to 157 g/m² in weight)
       Pressure-sensitive paper: 0.08 mm thick
       Duplicating carbon paper: 0.03 mm thick
       Plain paper (thin): 0.06 mm thick (47 g/m² in weight)

     The above-mentioned types of paper can be combined. However, the overall thickness must not exceed 0.3 mm and two or more sheets of thick plain paper must not be used.

(4) Printing position   in mm

| 36.1 | 12.4 | 36.1 | 12.3 |

17.6

12 digits   12 digits

Thickness: over 115
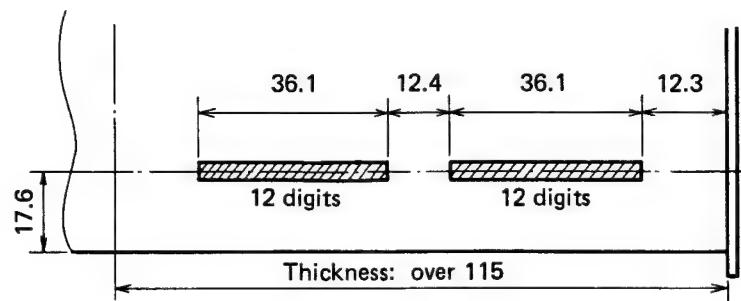
CORRECTION

1. Correction of entered numbers

When you entered an incorrect number, delete it by pressing the CL key and re-enter a correct number.

2. Correction just after registration (direct void)

To make a correction just after the department, PLU, deduction, premium, discount or refund registration, press the ∽ key.

→ ⌐Amount¬ → Dept. key → ∽ →

→ ⌐PLU no.¬ → PLU → ∽ ────

→ ⌈Department⌉ → ST → ⌐Amount¬ → ⊖ → ∽ →
  ⌊or PLU   ⌋
  ⌊registration⌋
                        Deduction

→ ⌈Department⌉ → ST → ⌐Percentage¬
  ⌊or PLU   ⌋
  ⌊registration⌋
                → %1 or %2 → ∽ →

→ ⌐Amount¬ → RF → ⌈Dept.⌉ → ∽ → TL
                   ⌊key ⌋

```
1    ★1.35 ←
1    -1.35 ∽
5 PL ★4.00 ←
5 PL -4.00 ∽
3    ★4.25
     -0.25 ⊖←
     ★0.25 ⊖∽
4  ★15.00
     -10.00%
     -1.50%1←
     ★1.50%∽
4    -2.50   RF←
4    ★2.50   ∽

2  ★19.25 CA
```

Correction symbol ─┘

3. Correction of the next-to-last or earlier registration before depression of the TL , CH or CR key (indirect void)

This correction is applicable to department and PLU registrations.

● **Correction of department registrations**
Press the ∽ key after the entry of an amount to be corrected (or after the operations "Q'ty" → ⊗ → "Amount (unit price)" in the case of multiplication registration), then press the corresponding department key.

● **Correction of PLU registrations**
Press the ∽ key after the entry of a PLU no. to be corrected (or after the operation "Q'ty" → ⊗ → "PLU no." in the case of multiplication registration), then press the PLU key.

$$\longrightarrow \boxed{\text{Amount}} \longrightarrow \boxed{\text{Dept. key}} \longrightarrow \boxed{\text{Amount}} \longrightarrow \boxed{\text{Dept. key}}$$

Wrong registration

$$\longrightarrow \boxed{\text{Amount}} \longrightarrow \boxed{\infty} \longrightarrow \boxed{\text{Dept. key}} \longrightarrow \boxed{\text{TL}}$$

Correction of wrong registration

```
6      *4.60 ←
7      *5.40
6      -4.60  ∽

1      *5.40 CA
```

$$\longrightarrow \boxed{\text{Q'ty}} \longrightarrow \boxed{\otimes} \longrightarrow \boxed{\text{PLU no.}} \longrightarrow \boxed{\text{PLU}} \longrightarrow \boxed{\text{PLU no.}} \longrightarrow$$

Wrong registration

$$\longrightarrow \boxed{\text{PLU}} \longrightarrow \boxed{\text{Q'ty}} \longrightarrow \boxed{\otimes} \longrightarrow \boxed{\text{PLU no.}} \longrightarrow \boxed{\infty} \longrightarrow \boxed{\text{PLU}} \longrightarrow \boxed{\text{TL}}$$

Correction of wrong registration

```
                5 X
         1.00  @
1 PL    *5.00
2 PL    *2.00
5 PL    *4.00
               -5 X
         1.00  @
1 PL    -5.00  ∽

2      *6.00 CA
```

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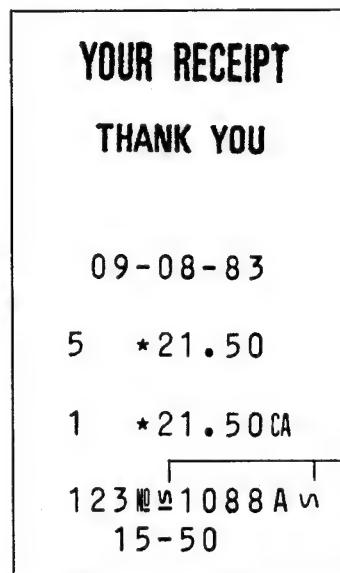**4. Cancellation of a previously entered transaction using the ⌷◌⌷ mode (i.e. ⌷◌⌷ mode lock position)**

Turn the mode switch to the ⌷◌⌷ position by means of a master (MA) or sub-master (SM) key and register the same details as printed on an error receipt. In this mode, registrations are made in the reverse fashion, namely negatively, of normal registrations — registrations in the REG mode — and registered amounts are subtracted from each totalizer and also added to a separate ⌷◌⌷ mode totalizer.

Error receipt

```
YOUR RECEIPT

THANK YOU


09-08-83

5   *21.50

1   *21.50 CA

123 ID 1087 A
   15-50
```

Cancellation receipt

```
YOUR RECEIPT

THANK YOU


09-08-83

5   *21.50

1   *21.50 CA

123 ID ഛ 1088 A ഛ
   15-50
```
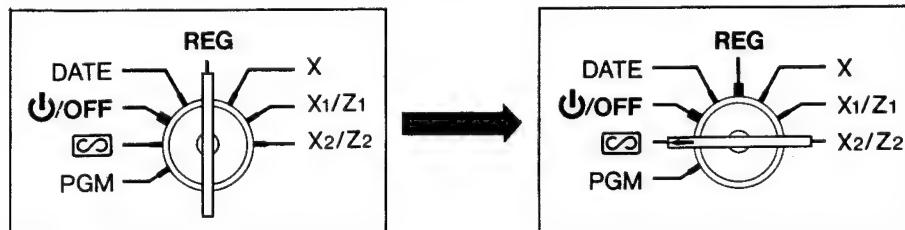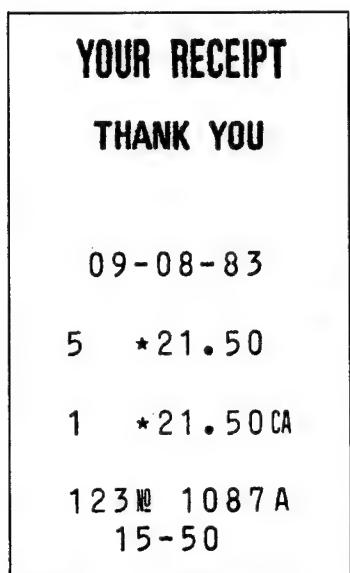
Cancellation symbol

Note: Error and cancellation receipts are be of avail as evidence. Keep them without fail and append them together with resetting sheet.
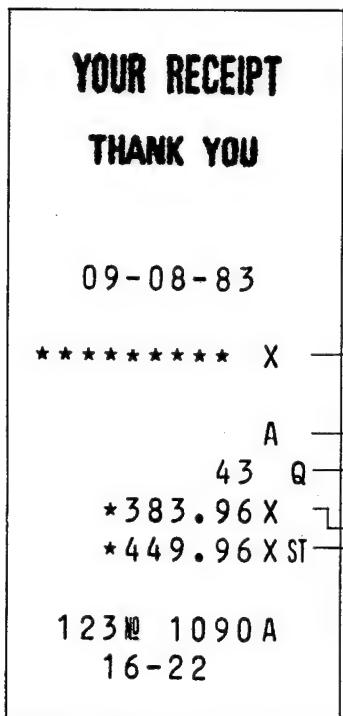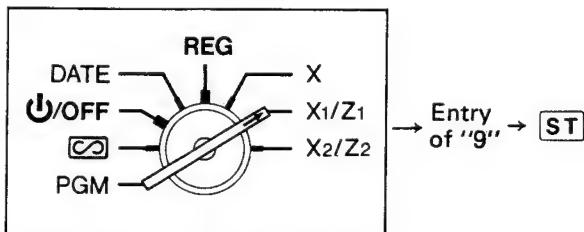
READING AND RESETTING OF SALES (DAILY TOTAL)

1. Individual clerk reading and resetting

Press the clerk push-button key (A through E) that corresponds to a clerk whose sales data needs to be read or reset, then carry out the following operations.

● Reading   ● Resetting


```
YOUR RECEIPT

THANK YOU


09-08-83

* * * * * * * *   X          ──── Read symbol ("Z1" is printed
                                   in resetting)
               A             ──── Clerk A
          43   Q             ──── Number of customers
    *383.96 X                ──── Sales
    *449.96 X ST             ──── Cash/cheque in drawer

123₩ 1090 A
  16-22
```
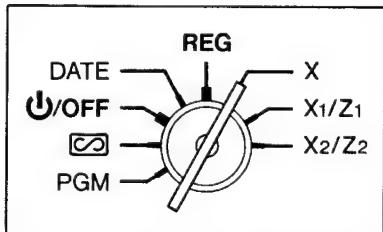
Note: When the declaration of cash/cheque in drawer is compulsive, the above operations cannot achieve any reading.
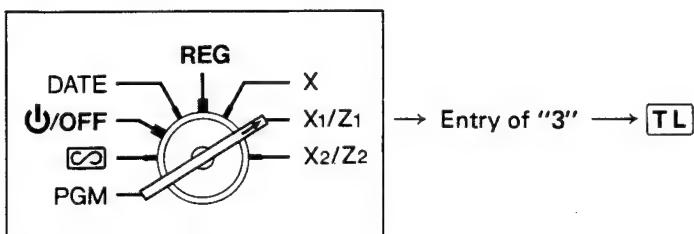Consult the "COMPULSORY CASH/CHEQUE-IN-DRAWER DECLARATION" on page 47.

3. Reading the cash/cheque in drawer

DATE ─ REG ─ X
⏻/OFF ─── X₁/Z₁ → Entry of "1" → TL
⊘ ─── X₂/Z₂
PGM ─
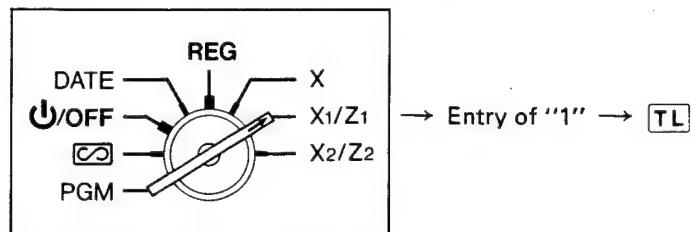
```
      YOUR RECEIPT

      THANK YOU


      09-08-83

  * * * * * * * *    X 1

            216   Q————————Number of customers
     *2276.96 CA TL———————Cash in drawer
        *93.75 CH TL———————Cheque in drawer
     *2370.71    TL———————Cash/cheque in drawer

   123№ 1278 A
     16-30
```

4. Reading the hourly sales

This function enables you to take the reading of the sales and the number of times of transaction (or the number of customers) by hour.

→ Entry of "3" → [T L]

```
 YOUR RECEIPT
 THANK YOU


 09-08-83

* * * * * * * *  X 1

 -09-        42  Q
    *275.00 X
 -10-        28  Q
    *452.25 X

 -14-        13  Q
    -110.19 X
 -15-        31  Q
    *515.65 X
 -16-        39  Q
    *398.00 X
 -17-         7  Q
     *99.00 X

 -23-        31  Q
    *463.25 X

 123⑩ 1356 A
  23-57
```

Time
Number of customers
Sales

between 9 hr 00 min 00 sec
and 9 hr 59 min 59 sec

Note: Printing is skipped for the hour in which no sales transaction has occurred.

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5. Reading and resetting the sales for every item

(1) Reading

→ [TL]

(2) Resetting
- ● When GT1 is not reset

→ Entry of "8" → [TL]

- ● When GT1 is reset

→ Entry of "9" → [TL]

```
     YOUR RECEIPT

     THANK YOU


     10-08-83

★★★★★★0001 Z 1 ──── Reset symbol ("X1" is printed in reading)
                 └──── No. of times of resetting

GT1★000000 ──── Net grand total ("−GT1" is
    3558.21      printed when GT1 is reset)     None of "GT1" and "GT2"
GT2★000000                                      is printed in reading
    4005.54 ──── Grand total of plus registrations
1       227 Q ──── Plus dept. count
   ★487.50 Z ──── Plus dept. amount
     13.62% ──── Ratio of dept. 1's sales to the whole plus department sales

7        78 Q
   ★239.90 Z
      6.70%
8        10 Q
    −5.00 Z ──── Minus dept. count and amount
      1847 Q ──── Gross count and amount (plus dept. total)
 ★3578.69 Z TL
    100.00%

        10 Q ──── Minus dept. total (count and amount)
    −5.00 Z TL
         1 Q ──── Deduction total (count and amount)
    ★0.48 ⊖
         3 Q ──── Sub-total % count and amount (%1 + %2)
   −15.00% ST
 ★3558.21 Z ST ──── Net amount
```

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```
              8  Q  ⎫——Item % count and amount (%1 + %2)
         -10.70%     ⎭
            278  Q  ⎫——Cash sale total (count and amount)
      *2915.21 CA    ⎭
             21  Q  ⎫——Cheque sale total (count and amount)
       *405.50 CH    ⎭
             14  Q  ⎫——Credit sale total (count and amount)
       *237.50 CR    ⎭
              5  Q  ⎫——Received on account total (count and amount)
       *720.00  ◄    ⎭
              3  Q  ⎫——Paid out total (count and amount)
       *100.00  ►    ⎭
             11  Q  ⎫——Refund total (count and amount)
        *63.25 RF    ⎭
             12  Q  ⎫——Void total (count and amount)
        *27.65 ⌄     ⎭
          ⌐   1  Q  ⎫——⌐⌐ -mode correction total (count and amount)
        *21.50       ⎭
     NS       7  Q  ——Number of times of exchange

            311  Q  ——Number of customers
      *3535.21 CA TL ——Cash in drawer
       *405.50 CH TL ——Cheque in drawer
      *3940.71    TL ——Cash/cheque in drawer

              A      ——Clerk A
            177  Q  ——Number of customers
      *1921.46 Z     ——Sales
      *2356.71 Z ST  ——Cash/cheque in drawer

              E
             41  Q
       *377.25 Z
       *377.25 Z ST
            311  Q  ⎫
      *3558.21 Z TL  ⎬——Number of customers, sales, and cash/cheque in drawer for
      *3940.71 Z ST  ⎭   full clerk (including individual clerk reset total)

     123№ 1393A
      23-59
```
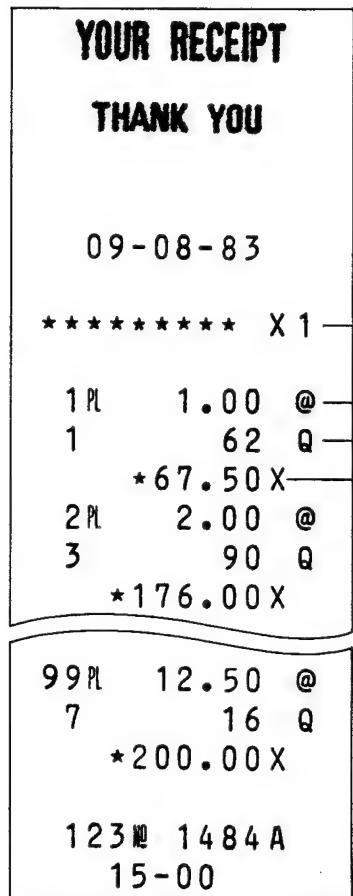
6. Reading and resetting the PLU-based sales
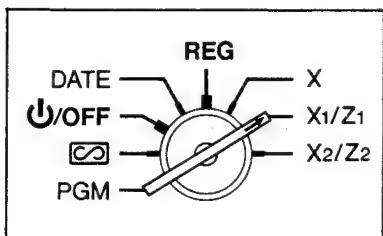
● Turn the mode switch to the X_1/Z_1 position and perform the following key operations.

(1) Reading for every PLU
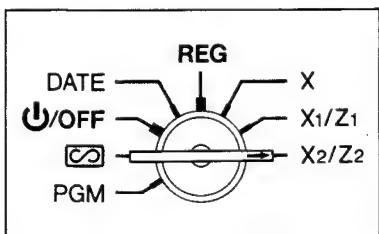
⟶ PLU

(2) Resetting for every PLU

Entry of "9" ⟶ PLU

```
   YOUR RECEIPT

    THANK YOU


   09-08-83

* * * * * * * *   X 1 ———— Read symbol (the reset (Z) report shows a "Z1" in this
                            position.)
 1 PL     1.00  @ ————————PLU number, programmed unit price
 1         62  Q ————————Department number, quantity
      * 67.50 X———————————Total amount (The reset (Z) report shows a "Z" in place
 2 PL     2.00  @            of a "X.")
 3         90  Q
      * 176.00 X

99 PL   12.50  @
 7         16  Q
      * 200.00 X

123 ₪ 1484 A
   15-00
```

(3) Reading for a specified range of PLUs
This function allows you to read the contents of individual PLUs between two specified PLU numbers.

(Individual)

| PLU no. — the start no. | ⟶ | ⊗ | ⟶ | PLU no. — the end no. | ⟶ | PLU |
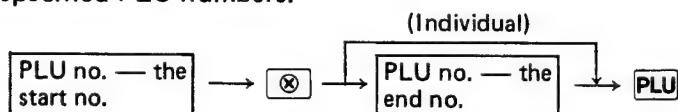
READING AND RESETTING OF PERIODIC CONSOLIDATION

1. Full item reading and resetting of periodic consolidation

Mode dial: DATE, REG, X, Ů/OFF, X₁/Z₁, ☯, X₂/Z₂, PGM

(1) Reading

⟶ [TL]

(2) Resetting

⟶ Entry of "9" ⟶ [TL]

```
YOUR RECEIPT

THANK YOU


   09-08-83                    No. of times of daily
                               sales total resetting (Z1)
******0006Z1
                               No. of times of periodic
******0001Z2                   consolidation resetting
                               (Z2)
 GT2*000001                    Grand total of plus
    3473.86                    registrations
 1       624 Q
   *1508.88Z
     11.73%
```
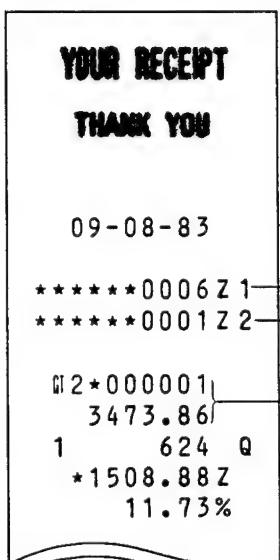
```
 7       187 Q
   *718.90Z
     5.59%
 8        46 Q
   -23.00Z
        4150 Q
  *12865.06Z TL
    100.00%

         46 Q
    -23.00Z TL
          9 Q
    *4.13 ⊖
         43 Q
   -117.70% ST
  *12720.23Z ST
```

```
         41 Q
    -25.49%
        1142 Q
 *10300.48 CA
         111 Q
  *1346.25 CH
          93 Q
  *1073.50 CR
          21 Q
  *1365.00 ◄
          16 Q
   *405.00 ►
          38 Q
   *172.25 RF
          28 Q
    *84.90 ∽
 ∽       1 Q
    *21.50
 NS       32 Q

        1344 Q
 *11260.48 CA TL
  *1346.25 CH TL
  *12606.73   TL

           A
         698 Q
   *6302.45Z
   *6409.70Z ST
```

```
           E
         241 Q
   *2125.43Z
   *2076.18Z ST
        1344 Q
  *12720.23Z TL
  *12606.73Z ST

 123№ 2502A
    17-23
```

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2. Reading of the net of each daily total

REG

DATE ——— X

⏻/OFF ——— X₁/Z₁ $\longrightarrow$ Entry of "1" $\longrightarrow$ $\boxed{\text{TL}}$

🔁 ——— X₂/Z₂

PGM
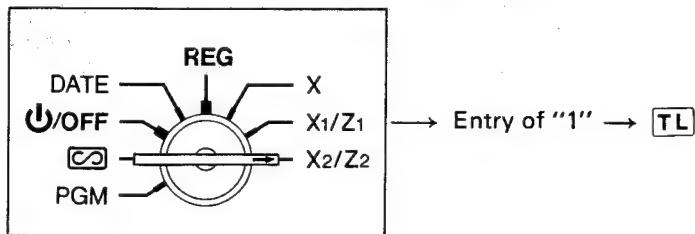
```
   YOUR RECEIPT

    THANK YOU


   09-08-83

* * * * * * * *  X 2

*01*    311  Q
   *3558.21X
*02*    200  Q
   *1346.11X
*03*    157  Q
   *1381.65X
*04*    220  Q
   *2095.04X
```

—— Day

—— Number of customers and net sales for the first day.

—— Number of customers and net sales for the second day.

—— Number of customers and net sales for the third day.

```
*30*    226  Q
   *2229.28X
*31*    230  Q
   *2109.94X

  123⍾ 2498A
   16-00
```

COMPULSORY CASH/CHEQUE-IN-DRAWER DECLARATION

Open the drawer before individual clerk reading (or full clerk reading or resetting), count cash/cheque in drawer, and enter the count.

(1) Individual clerk reading
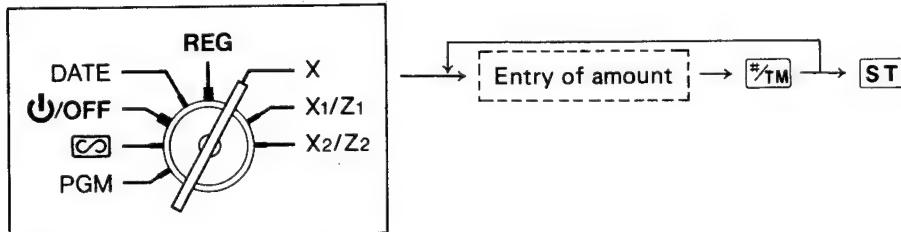
(2) Full clerk reading and resetting

2: Reading
7: Resetting
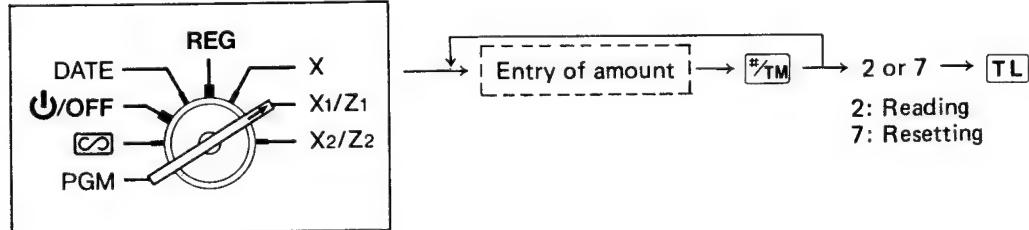
● Samele individual clerk X report


```
YOUR RECEIPT

THANK YOU


09-08-83

00087991———————CCD entry
* * * * * * * * *  X

                A
       107  Q
   *923.91 X
   *879.91 X ST———————Cash/cheque in drawer

123№ 2674 A
   18-00
```

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IN CASE OF POWER FAILURE

When power is lost, the machine retains its memory contents and all information on sales registrations.

1. When power failure is encountered in register IDL state or during registration, the machine returns to the normal state of operation after power recovery.

2. When power failure is encountered during a printing cycle the register prints "— — — — — — —" and then carries out the correct printing procedure. (See the sample print.)

```
    YOUR RECEIPT

    THANK YOU


    09-08-83

  1   *12. 0 ──────── Print before
                       power failure
  - - - - - - - - ──── Power failure
                       symbol
  1   *12.50 ──────── Print after
                       power recovery
  1   *12.50 CA

  123⑩ 2676A
     18-01
```
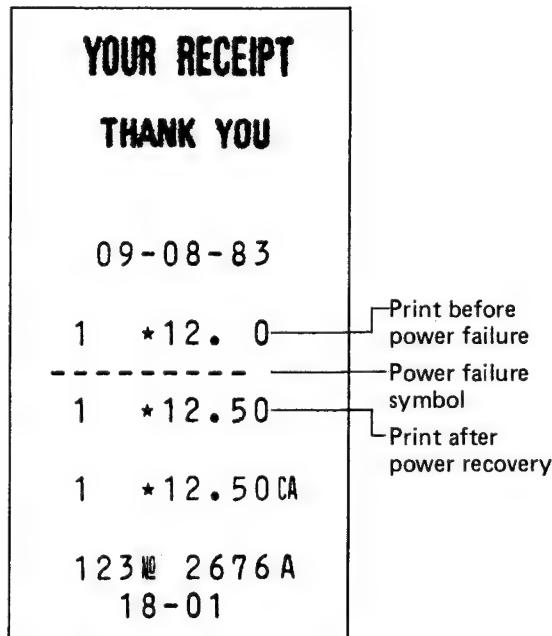
REMOVING THE TILL AND THE DRAWER

The till in the register is detachable. After closing your business for the day remove the till from the drawer and keep the drawer open. This will prevent money from being stolen. To detach the drawer, pull it foreward fully with the till removed, and drawer it out by lifting it up.

Till
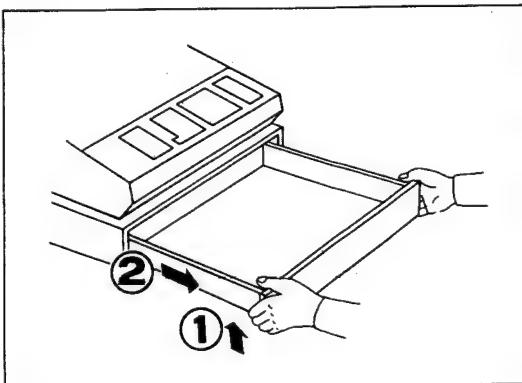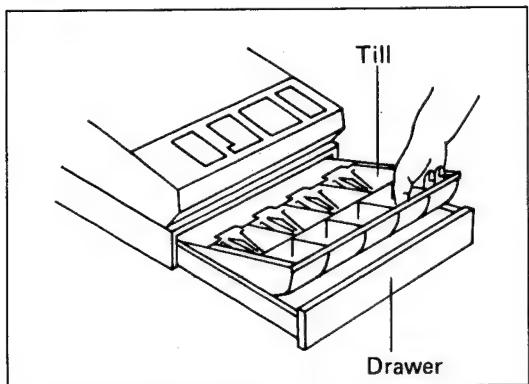
Drawer

OPENING THE DRAWER BY HAND

The drawer automatically opens in the usual way, however, when power failure is encountered or the machine is out of order, open the drawer by following the procedure below.

For the West Germany model
Push the lever in the opening located on the machine bottom toward the front. (See Fig. 1.) However, the drawer will not open, if it is locked.

For the U.K. or Australia model
Insert the key into the drawer lock and turn is 45 degrees clockwise. (See Fig. 2.)

Fig. 1

Lever

Fig. 2
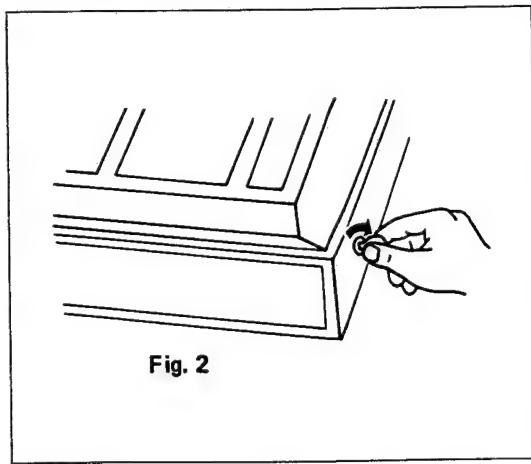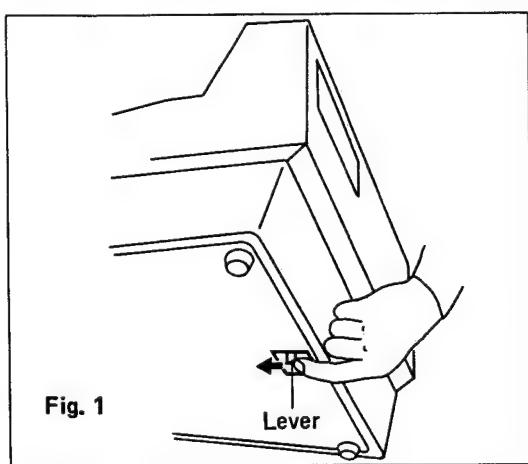
INSTALLING AND REMOVING THE PAPER ROLL

When installing the paper roll, set it and cut its end as follows.

< Paper roll setting >

Correct

To the printer

Incorrect

To the printer

< Paper end cutting >

Correct

Incorrect
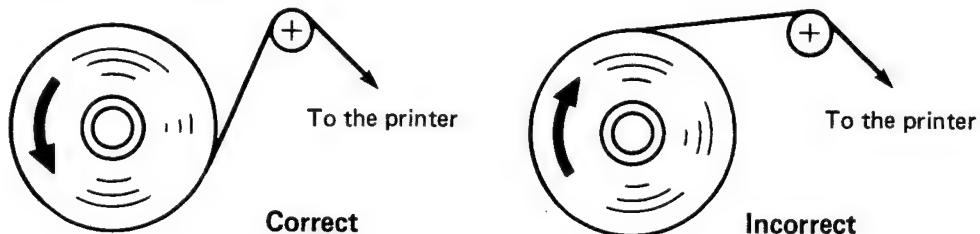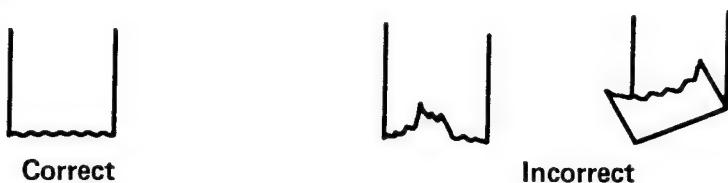
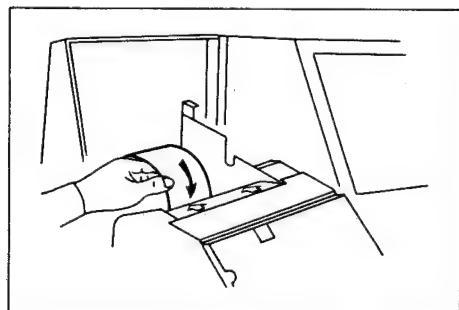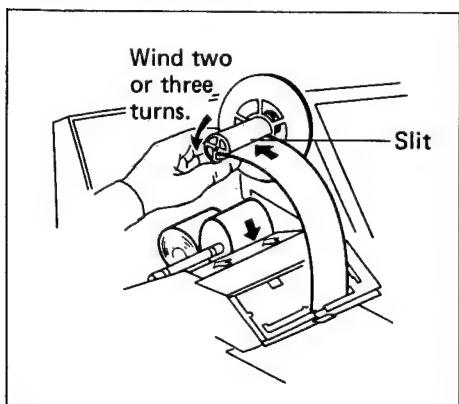## 1. Installing the paper roll

■ Installing the receipt paper roll

(1) Remove the printer cover.

(2) Place the paper roll in the paper roll location, insert its end straight into the paper chute of the printer and press the receipt paper feed key.

■ Installing the journal paper roll

Wind two or three turns.

Slit

(1) Set the paper roll following the same procedure as above and press the journal paper feed key.

(2) Insert the paper end that has come out at the printing area of the printer, into the slit in the paper take-up spool, wind it two or three turns around the spool shaft and install the spool on the bearing.

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2. Removing the paper roll

When a red dye appears on the paper roll or when the alarm of paper shortage sounds, it means that it is time to replace the existing paper roll. Replace the paper roll with a new one.

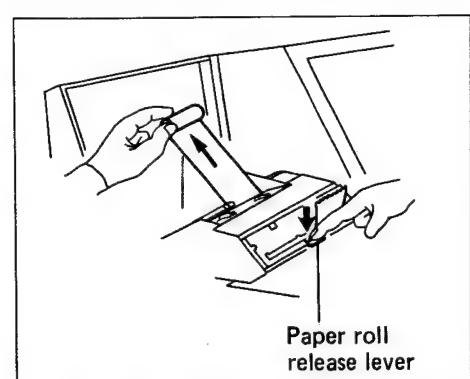### ■ Removing the receipt paper roll

Paper roll release lever
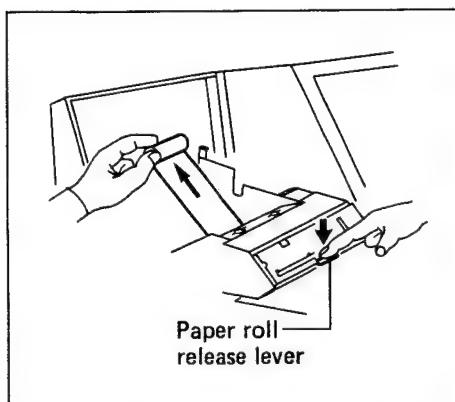
(1) Remove the printer cover.

(2) Push in the paper roll release lever in the direction of the arrow and pull out the paper.

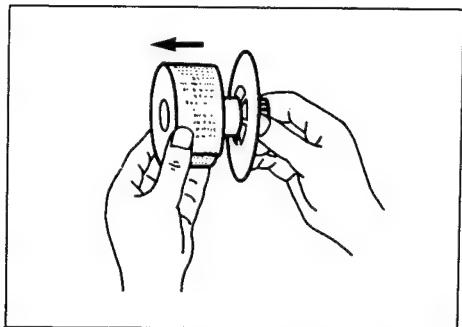### ■ Removing the journal paper roll
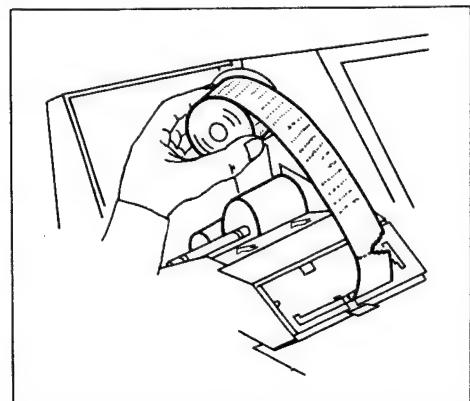
(1) Press the journal paper feed key to advance the paper by several lines and cut the paper.

Paper roll release lever

(2) Push in the paper roll release lever in the direction of the arrow and pull out the remaining paper.

(3) Remove the paper roll from the take-up spool.

Request

Be sure to use paper rolls specified by SHARP.

The use of any other paper rolls than specified could cause paper jamming or imperfect automatic paper cutting, resulting in register malfunction.

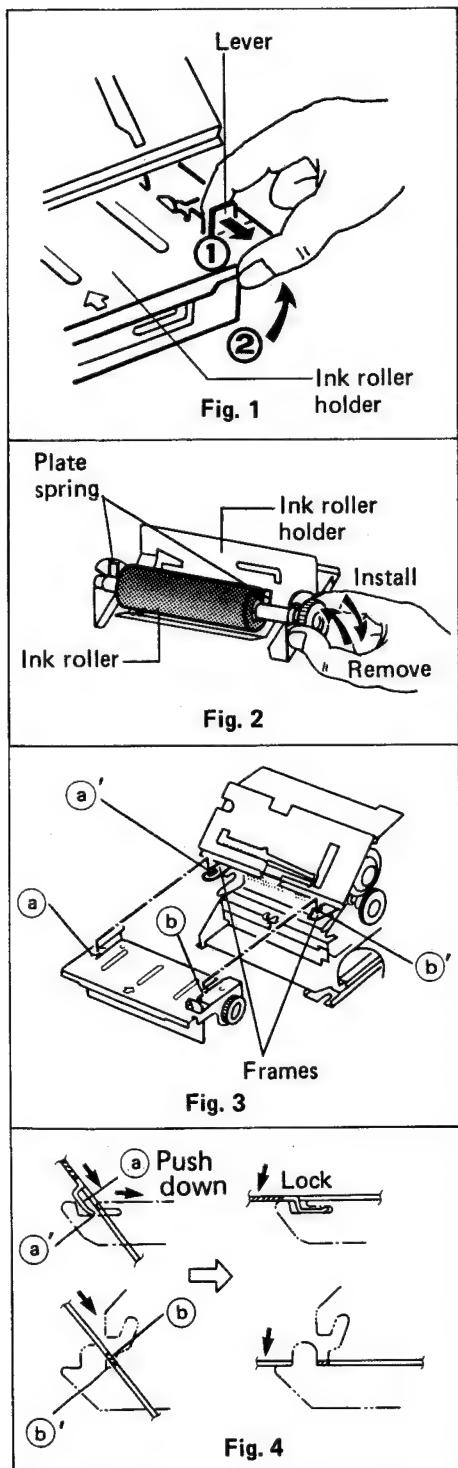Paper specification

Paper width: 44.5 ± 0.5 mm
Max. outside diameter: 83 mm
Weight: $52.3 - 64.0$ g/m² $(45 - 55$ kg/1000 sheets/788 x 1091 mm² $)$
Quality: bond paper

REPLACING THE INK ROLLER

When printing becomes faint, replace the ink roller with a new one specified by SHARP.

Fig. 1

Lever
Ink roller holder

Fig. 2

Plate spring
Ink roller holder
Install
Ink roller
Remove

Fig. 3

Frames

Fig. 4

ⓐ Push down
Lock

1. Remove the printer cover.

2. Pull the lever of the ink roller holder toward you (in the direction of arrow ①), lift up the ink roller holder in the direction of arrow ② to remove. (Fig. 1)

3. Remove the ink roller from the ink roller holder and install a new ink roller instead. (Fig. 2)

4. Mount the ink roller holder on the printer.

   Insert the holder into the frames at an angle of 40 degrees, fit positioning projections ⓐ and ⓑ of the holder into parts ⓐ' and ⓑ' of the frames, then push down the holder to lock it. (Figs. 3 and 4)

5. Replace the printer cover.

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INK REFILL

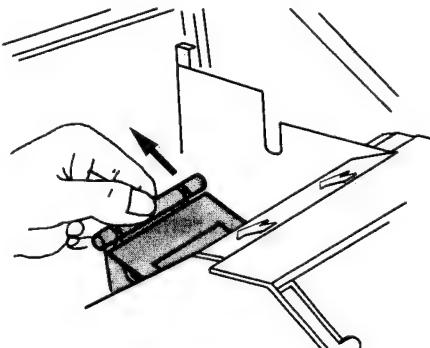If logo becomes faint, refill it with logo ink following the procedure given below.

Fig. 1

Fig. 2

Ink inlet

1. Remove the printer cover.
2. Take out the logo in the direction of the arrow. (Fig. 1)
3. Pour two or three drops of ink through the ink inlet provided on the logo back. (Fig. 2)
4. Mount the logo in the reverse order of taking out.
5. Replace the printer cover.

Precautions

1. The logo ink first gives a clear print 10 to 15 hours after being poured into the logo. Therefore, refilling after the daily business is most effective.
2. Overinking should be avoided. This will create a blurry print.
3. The ink is exclusively used for the logo.
   Do not apply the ink to the ink ribbon and ink roller.

   * When the supplied ink is exhausted, purchase the logo ink specified by SHARP.

BEFORE CALLING FOR SERVICE

The malfunctions shown in left-hand column below, labeled "Fault," do not necessarily indicate functional faults of the machine. It is therefore advisable to refer to the "Checking" shown in the right-hand column before calling for service.

Fault	Checking
(1) The display won't be illuminated even when the mode switch is turned to any other position than "⏻/OFF".	• Is power supplied to the electric outlet? • Is the power cord plug out or loosely connected to the electrical outlet?
(2) The display is illuminated, but the whole machine refuses registrations.	• Is the clerk key inserted? • Is the mode switch set properly at the "REG" position?
(3) No receipt is issued.	• Is the receipt roll-paper properly installed? • Is there a paper jam? • Is the receipt ON-OFF switch at the "OFF" position?
(4) No journal paper is taken up.	• Is the take-up spool installed on the bearing properly? • Is there a paper jam?
(5) Printing is unusual.	• Is the ink roller installed properly? • Is the ink roller life completed?

SPECIFICATIONS

Model:	ER-2905/2908
External dimensions:	
West Germany model:	405(W) x 423(D) x 362.5 or 509(H)*mm *Height of the machine with a customer display
U.K. or Australia model:	440(W) x 460(D) x 367.5 or 514(H)*mm *Height of the machine with a customer display

Weight:	West Germany model: 15.0 kg (ER-2905),
	                      15.3 kg (ER-2908)
	U.K. or Australia model: 17.5 kg (ER-2905),
	                      17.8 kg (ER-2908)

Power supply:	AC local voltage ±10% 50/60 Hz
Power consumption:	Stand-by 15W Operating 45W
Operating temperature:	0 to 40°C
Electronics:	LSI (CPU), etc.
Totalizers:	ER-2905: 113 ER-2908: 120
Counters:	ER-2905: 48 ER-2908: 55
Built-in battery:	Ni-Cd rechargeable battery, memory holding time about 1 month (with fully charged built-in battery, at room temperature)
Display:	Fluorescent display tube

Printer:
  Printing system;
  Printing speed;
  Printing capacity;
	
	Type drum selection
	3 lines/sec. (max.)
	12 digits (amount: 10 digits, symbol: 2 digits)

Ink roller:	Color: Purple (single color) Dimensions: 22ϕ x 90 mm Life: 0.6 millions of lines Part no.: NROLR6638RCZZ
Logo:	Dimensions of the printing face: 30 mm (W) x 20 mm (H)
Paper roll:	Width: 44.5 ± 0.5 mm Max. diam.: 83 mm Weight: 52.3 ~ 64.0 g/m² (bond paper)
Cash drawer:	4 slots for bills, and 5 for coins (for the West Germany model) 4 slots for bills, and 8 for coins (for the U.K. model) 6 slots for bills, and 5 for coins (for the Australia model)

Accessories:	Master key	2	
	Sub-master key	2	
	Operator key	2	
	Drawer lock key	2	
	Printer cover key	2	
	Ink roller	1	(mounted on the main body)
	Standard logo	1	
	Logo ink	1	
	Paper roll	2	
	Spool	1	
	Dust cover	1 sheet	
	Instruction manual	1 copy	
	Bill separator	1	
	Coin subcase	1	

* Specifications and appearance subject to change without notice for improvement.

LIST OF OPTIONS

For the ER-2905/2908, the following options are available. For details, contact your dealer.

1. Price look-up kit model ER-45PL4 (or ER-45PL6)
   - The ER-45PL4 (or ER-45PL6) provides 99 PLUs.

2. Department up-grade kit models ER-29DT and ER-29DT2
   - The ER-29DT2 is specialized for the ER-2905 register and enables increasing the number of departments to 8.
   - The ER-29DT is specialized for the ER-2908 register and enables increasing the number of departments to 10, 15, or 20.

3. Flexible key layout/VAT function model ER-29RM
   - The ER-29RM enables the change in key layout and provides the VAT function.

4. Remote drawer model ER-29DW1
   - The ER-29DW1 may be connected to the ER-2908 register alone.

5. Till cover model ER-37CV

6. External battery unit model ER-20BT2
   - The use of this unit enables you to operate the ER-2905/2908 even at power failure.
   - This unit allows 2 hours of continuous operation when fully charged.

— Key label VAT for VAT (Value Added Tax) function —

If your register is equipped with the optional VAT (Value Added Tax) function, cut off the key label VAT printed below by means of scissors or the like and replace the key label RCPT with it.

| VAT | | VAT |
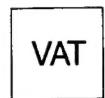
INTRODUCTION

Thank you very much for your purchase of the SHARP Electronic Cash Register, Model ER-2905/2908.

Please read this Manual carefully before operating your machine in order to gain a full understanding of its function and performance.

Please keep this Manual for future reference, it will help you, if you encounter any operational problems.

IMPORTANT

- **Install your ER-2905/2908 in a location that is not subject to direct radiation, unusual temperature changes, high humidity or exposed to water sources.**
  Installation in such locations could cause damage to the cabinet and the electrical components.

- **The register should not be operated by an individual with wet hands.**
  The water could seep into the interior of the ER-2905/2908 and cause component failure.

- **When cleaning your register, use a dry, soft cloth. Never use volatile liquid, such as benzine and thinner.**
  The use of such chemicals will lead to discoloration or deterioration of the cabinet.

- **The ER-2905/2908 register plugs into any standard wall outlet (local voltage ±10% AC).**
  Other electrical devices on the same electrical circuit could cause the ER-2905/2908 to malfunction.

- **If the register malfunctions call your local dealer for service — Do not try to repair the register yourself.**

- **For a complete electrical disconnection pull out the mains plug.**

PRECAUTION

This Electronic Cash Register has a built-in memory protection circuit which is operated by rechargeable batteries.

As you know, all batteries will, in time, dissipate their charge even if not used.

Therefore to insure an adequate initial charge in the protection circuit, and to prevent any possible loss of memory upon installation, it is recommended that each unit be allowed to recharge for a period of 24 to 48 hours prior to use by the customer.

In order to charge the batteries, the machine must be plugged in and left on in the "REGISTER MODE". This recharging precaution can prevent unnecessary initial service calls.